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A NOTE ON LAPP CULTURE HISTORY

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ETHNOGRAPHERS are not often enough able to trace cultural developments with the aid of written sources. They are, therefore, rarely able to do more than guess at the factors that have molded social arrangements. It is easier to indicate a significant nexus when demonstrable innovations were introduced at a definite period so that we can then follow the modifications in their wake. Thus, Dr Mandelbaum has shown that, and how, Cree culture was vitally affected at three distinct epochs by elements of white civilization, viz. guns and the fur trade, the horse, and transcontinental railways.[1] Two Scandinavian publications little known in this country[2] afford corresponding insight into the consequences of intensified reindeer-breeding among the Lapps and merit a wider audience. Though the authors may not synthesize their findings in so definite a manner as this article implies, I believe it does represent accurately the import of their findings.

It is not my intention to enter into the problem of Lapp origins or the moot-question of how reindeer domestication evolved, but to adhere to facts either established by documentary evidence or by sound linguistic and ethnographic inference. According to Wiklund the Lapps penetrated the Scandinavian peninsula from the north, moving mainly along the mountain ranges, and appeared in the in-

1 David G. Mandelbaum, *Boom Periods in the History of an Indian Tribe* (Social Forces, vol. 16, pp. 117-119, 1937-38).

2 Erik Solem, *Lappiske Rettstudier* (Institutet for Sammenlignende Kulturforskning, vol. 24, Oslo, 1933); P. L. Smith, *Kautokeino og Kautokeino-Lappene* (same series, vol. 34, 1938).

terior about 66° N lat. before 700 AD, at which period they already had Scandinavian contacts. In the seventeenth century they reached their farthest point south, 60°30'.[3] By general agreement the primeval Lapps were hunters—largely of wild reindeer—and fishermen. The earliest reference to domesticated reindeer in Scandinavia dates from ca. 890 AD. At that time the Norseman Ohtthere is credited with having owned a herd of six hundred "tame reindeer," but there is no evidence of any practical utilization of these beasts. It has been both surmised and denied that Ohtthere had Lapps to tend his animals, a point impossible of verification. Indeed, Laufer questions that true domestication was involved at all, conjecturing that the Lapps adopted domesticated reindeer from the Samoyed during the eleventh or twelfth century.[4] The earliest record he produces for the utilization of reindeer by Lapps is due to Baron Sigismund von Herbertstein, whose Russian interpreter, Gregory Istoma, had seen Norwegian Lapps driving in reindeer-sledges in 1496. In 1555, when Archbishop Olaus Magnus published his account, both driving and milking were fully developed features of Lapp reindeer economy.

Now, whatever criticisms may be made on Laufer's theories from other points of view, his contention that the Lapps became effective reindeer-breeders only in very recent times seems emphatically borne out by Solem's evidence. As he reminds us, a herd of fifty beasts, i. e. one approximating a wild herd, is utterly inadequate for the support of a household; and for comfort the size required is from 200 to 250. Olaus Magnus, indeed, speaks of herds of 500 head, and other sources during his and the following century even mention herds of 2,000 beasts. But the Swedish tax lists tell a different story. The Lapps were obliged to pay the government one tenth of all their reindeer—later one tenth of all the reindeer offspring. The following figures, then, are suggestive. In 1609 the 103 Lapps at Ume owned altogether 946 head, with an average of 9, the wealthiest member of the group having only 28, so that he was unable to subsist on the milk and flesh of his stock. In Lule 181 Lapps owned 3,981

3 K. B. Wiklund, *Finno-Ugrier* (in Ebert's *Reallexikon der Vorgeschichte*, vol. 3, pp. 364-382, Berlin, 1924), p. 367.

4 B. Laufer, *The Reindeer and its Domestication* (Memoirs, American Anthropological Association, vol. 4, no. 2, 1917), pp. 95-101.

reindeer, averaging 22 head; and the wealthiest man owned 75 head. Solem reasonably conjectures that the high early estimates relate to the property of a whole community. In peltry payment, too, reindeer are far from predominating during this period. In 1549 the Lapps of Västerbotten paid 103½ marten skins, 1760 squirrel skins, and 75 reindeer skins; in 1554 those of Kemi and Torne are credited with 50 reindeer, 92 marten, 9 beaver, 40 ermine skins. Somewhat later dried fish were added to the tax payments. The facts suggest a population supporting itself essentially by hunting and fishing *(Betalingsmidlene viser en befolkning som for den vesentligste del har hatt sin naering i jakt og fangst).*

Only in the eighteenth century is any marked change demonstrable. In Kola Peninsula, Russia, large herds began to develop about 1700. In Kautokeino the Lapps of 1740 were still moving "hither and thither in order to seek food in some fashion, for hardly any one was wealthy enough to sustain himself and his household solely by his reindeer." In Scandinavia larger herds first developed in the southern Lapp districts. The census of 1753 shows 64 men of one locality owning jointly 4,860 head, with the richest having 300; 16 men, between 100 and 250; the rest, between 20 and 100. At that period it was still only the wealthiest Lapps who could afford to dispense with hunting.[5]

In short, until well into the eighteenth century, the ancestors of the modern Reindeer Lapps were for the most part hunters and fishermen with merely ancillary dependence on reindeer-breeding. Tornaeus' graphic account of a wild reindeer herd driven into a corral dates back to 1672.[6]

What, then, were the social arrangements that accompanied the pre-pastoral condition; and how were they influenced by the introduction of stock-breeding as a primary economic occupation?

At no time is there evidence for a clan system with exogamy nor even for a distinct stressing of unilateral kinship ties. The relationship terminology emphatically departs from the customary "classificatory" (bifurcate merging) pattern, conforming rather to the "bifurcate collateral" type. There are, then, distinct words for

5 Solem, *op. cit.*, pp. 14, 17-21, 184 f.

6 Alexander Castren, *Reiseerinnerungen aus den Jahren 1838-1844* (St Petersburg, 1853), p. 44 f.

father (acce), father's elder brother (oekke), and mother's brother (oeno); and for mother (oedne), mother's elder sister (goaske), and father's sister (siessa). This is in consonance with the observed prominence of the individual family. No trace has been noted of either the avunculate or preferential cross-cousin marriage. Residence varies, in part at least, regionally: the Skolte Lapps are thoroughgoing patrilocalists; in other groups the first year of marriage at least is spent with the wife's kin, an arrangement that sometimes becomes permanent. Matrilocal residence seems to be more common if the bride's family are wealthy, a condition met only in the stock-breeding era, for originally there was no distinction of rich and poor, the very word for "rich" being borrowed from the Scandinavian.[7]

Both hunting and pastoral Lapps have had a type of unit larger than the family and designated by a truly Lapp stem with such dialectic variants as sit, sida, sii'dâ. For the sake of simplicity the first of these will henceforth be used exclusively; its current Norwegian rendering is "by" (town). Pre-pastoral conditions must be considered first.

The sit is not a joint family, lineage, or clan, for the blood-kinship of the constituent families is immaterial. The Petsamo Lapp fishermen, for example, embraced three sit, each attached to a river of its own, and each made up of several families that might or might not be related. The institution throughout historic times is "not tied to a definite lineage" *(ikke knyttet til en bestemt slekt)*. A sit derives its designation not from a putative ancestor, but from its fishing-sites or winter-quarters. In other words, the group names are local.

Probably the sit owned a sacred sacrificial site where the oldest member, or in matters of special importance the shaman, made offerings. However, the unit was primarily an economic one. A sit owned a tract of land, which was usually set off by natural lines of demarcation. In Petsamo each territory was concentrated along a watercourse, the watersheds marking the boundaries. Since the seventeenth century litigation over trespass has been brought before Scandinavian courts.

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7 Solem, *op. cit.*, pp. 62, 72 f., 284, 290, 292, 294 f.; Smith, *op. cit.*, p. 572.

Control was vested in an assembly of house fathers, succeeded by their eldest sons, and presided over by an elected chairman. This body assumed jurisdiction in civil cases, assigned land for exploitation, altered the allotments of fishing-sites, disposed of beavers and other land animals killed by residents, and by lot distributed the salmon catch. The council of the Skolte Lapps retained these privileges until recent times.

Obviously there was a considerable measure of communism, but it was not unqualified. Chattels were owned individually, and a distinction was drawn between the more and the less valuable game animals. Generally speaking, the latter might be hunted by individuals for the sole benefit of their households. On the other hand, the sit anciently claimed reindeer, beavers, bears, and wolves, and periodically reaffirmed the old law or specifically sanctioned its modification. Thus, in 1770 an assembly declared that no beaver must be sold or given away until the whole "by" had given its consent, and allotted the places for making a catch among the membership. In 1733 the same principle had been asserted for wild reindeer, too *(villren og bever efter gammel sedvane skulde tilfalle byen)*. Since the corrals for a battue required coöperative effort, the rule appears rational enough. It was also decreed at one time that between Christmas Day and mid-Lent no one should hunt reindeer alone. Again, bear flesh was consumed in a big common feast.

In consonance with the spirit of these regulations the sit provided for the wants of every member, not as a matter of charity, but as an obligation owed him. This attitude, of course, militated against marked differences of wealth.

Nevertheless, the historic period witnessed definite steps towards restricting the communistic principle. Whereas anciently the catch of fish was shared, later the sit came to recognize the individual's privilege to fish at particular spots; and in 1733 a decree explicitly eliminated the wolf hunt from the roster of compulsorily communal enterprises and sanctioned the individual appropriation of glutton, otter, fox, and marten skins.[8] Such defection from traditional usage was probably due to the seeping in of individualistic notions from either Scandinavians or stock-breeding Lapps.

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8 Solem, *op. cit.*, pp. 74-93, 101-104, 285 f., 288 f.

To turn to the reindeer nomads, they preserved the sit, but inevitably modified it. It comprised from two to six families—most frequently three—who profitably united their beasts in a single herd of between, say, 1,500 and 2,000 head. Occasionally local conditions precluded such unions: in Polmak, for instance, pasturage was so sparse that each herder had to shift for himself. However, the sit is clearly the normal institution for the reindeer-breeders. Yet, notwithstanding the coöperative principle on which the unit rests, individual ownership predominates. Though pasture lands are shared, each family has its own tent, driving equipment, domestic utensils, and reindeer *(Det er i det hele tatt ikke noe økonomisk fellesskap mellem de forskjellige familier i siidaen)*.

The pastoral sit, too, is emphatically a "loose" unit: there is no question of exogamy; the membership may hold for only part of the year and changes from one year to the next. However, before admission to another sit a seceder is likely to be cross-questioned concerning the reason for his shift. Every sit has a leader, who is not formally chosen, but emerges naturally as the most experienced and affluent reindeer-breeder, retaining his position as long as his competence insures his prestige. The office, which is without compensation, *may* descend to the incumbent's eldest son provided he displays the requisite efficiency. The leader decides on the time for migrating and allots tasks among the members. He is influenced by their advice, but often his word is decisive, which also holds for cases of quarreling. Damages claimed by Norwegian peasants or sedentary Lapps who have suffered from the herds are paid by the headman, who recoups himself by assessments.

As between distinct sit units, there have been no noteworthy disputes over land. The Lapps are peaceable and reasonable folk who recognize that circumstances alter cases. Their claims, accordingly, are not advanced as indefeasible prerogatives in a modern legal sense. Customary rights are respected, and along the paths of migration one sit will try not to exhaust the pasturage, so as to save as much as possible for later wanderers. If ice covers the lichens so that the reindeer, unable to get at their fodder, trespass on grounds traditionally associated with another sit, no grievance is felt. Inevitably, too, a mixture of herds will occur, since weak animals lagging behind their fellows are picked up by subsequent arrivals. Or,

wolves may cause an alarm and drive reindeer into alien herds. Hence a regular technique has developed for separating one's animals from those of other herders. In lieu of a brand, each reindeer bears a property mark cut or bitten out of its ears, and when the animals to be sorted out have been driven into a corral, or nowadays assembled at some suitable site, a Lapp will go back and forth to lasso his property. He will very likely offer a fee to the man into whose herd his beasts have strayed, but since at some future time the tables are likely to be reversed, the offer is usually declined. An interesting relation has sprung up between pastoral and sedentary Lapps. The latter, too, require some reindeer for transport since horses can be used only on regular roads; in the winter the owners tend their beasts themselves, but in the summer they entrust them to the care of some friendly Reindeer Lapps.

The pre-pastoral Lapps were definitely egalitarians. Never a warlike people, they did not acquire captives that might evolve into a caste of slaves. But with the rise of large reindeer-herds the pastoral Lapps found it desirable to employ helpers, usually hired for one year, who receive their clothes and as many as five reindeer cows as wages. These servants are well-treated and because of their skill may become full-fledged members of a sit. Characteristically, there are no stems in the language for such workers: the words designating them are the Scandinavian dreng (boy) and pike (girl) or Finnish equivalents.[9]

To sum up, the transformation of fishing and hunting Lapps into large-scale stock-breeders brought with it definite social changes. There developed marked differences in wealth: Turi's maternal grandfather at one time owned 5,000 head of reindeer, whereas another old man who once had a herd of 1,000 saw his stock dwindle away to a paltry 20.[10] Incidentally, the pastoralists pay little attention to the decrepit, for their nomadism renders such care very difficult. The rise of rich people, of course, involved a recession of the communistic principle. Finally, the new conditions introduced nascent, though not over-emphasized, distinctions of status—a group of hired workers.

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9 Solem, *op. cit.*, pp. 273, 306 ff., 185-203; Smith, *op. cit.*, p. 570 f.

10 Solem, *op. cit.*, p. 63 f; Johan Turi, *Das Buch des Lappen* (Frankfurt am Main, 1912), p. 249 f.

The degradation of women, which some authors connect with pastoral life, did not develop. Lapp women enjoy a relatively good position, advise in economic matters, dispose of their own property, and may forbid a daughter's marriage. In this connection we may recall that the women are economically active, milk reindeer, help in tending them and in putting up the stock, usually procure firewood, and take care of everything connected with skins. Their disabilities in pagan days seem to have been mainly connected with menstrual and natal taboos. A woman retired to a special hut during her confinement and was considered impure for six weeks after delivery. When menstruating, she had to avoid stepping over her husband's feet or gun. She was not supposed to enter by the rear door through which a hunter brought his kill nor to approach a fisherman's catch. Shamanistic drums and sacred rites were also taboo to her. In the daily routine, however, women held an accepted place.[11]

Ultimogeniture is noted for some groups, but not exclusively for the reindeer nomads. It is, of course, consistent with matrilocal residence, but the regional differences are considerable. The Finnish Lapps in Enare regard the eldest son as the principal heir, whereas among the Skolte the youngest son remains at home, taking care of his parents and unmarried sisters, and is called "the foundation of the house." In one case, in Tana, the youngest daughter took over the house and property though there was an elder brother. It would be worth while to determine the correlates of these varying usages.[12]

Altogether it would be a great boon to science if some Scandinavian scholar were to synthesize what is known about the Lapps from both earlier sources and recent field work. Both the old-style ethnographer and the student of acculturation have a great deal to learn about this fascinating people.

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11 E. Reuterskiöld, *De nordiske Lapparnas Religion* (Stockholm, 1912), pp. 59, 68; J. Scheffer, *Lapland* (Frankfurt am Main and Leipzig, 1675), pp. 101, 115 f., 122, 341.

12 Solem, *op. cit.*, pp. 169 et seq., 297 f.

LINGUISTICS IN ETHNOLOGY

C. F. VOEGELIN AND Z. S. HARRIS

THE CONTEXT between linguistic and ethnological work is often stated as though ethnology were on the receiving end: kinship systems may be recorded and analyzed by linguistic methods, and so on.[1] Less often, a statement is found which puts linguistics on the receiving end: "If cultural studies provide information on meaning which linguists are unable to find for themselves . . ."[2] Besides these viewpoints, which are symbiotic when combined, it is sometimes said that linguistics is sterile in its relationship to culture: the most negative and excluding statement on the failure of linguistics to make "any great contribution toward the solution of our current problems" comes from a scholar whose interest has shifted from culture to person-in-a-culture, as Kluckhohn calls the shift.[3] Cultural considerations are always included by students interested in personality problems, but the cultural data so included are undetailed and generally and broadly stated. In contrast, linguistics offers highly detailed, concise, numerous statements: these may be time-consuming, or difficult, or even distasteful to certain students, but they are surely not irrelevant in the study of culture or personality. To be sure, certain scholars have always excluded linguistic considerations from their cultural studies, and for rapid survey work this is perhaps inevitable; others have included linguistic detail in order to make a less ethnocentric, that is, a more objective record of "the qualities of a culture" into which the ethnologist is not born. Those who have "gradually learned to sense and to value" a second

1 Claude Levi-Strauss, *L'analyse structurale en linquistique et en anthropologie* (Word, vol. 1, pp. 33-53, 1945).

2 W. D. Preston, *Review of "Old Oraibi: a Study of the Hopi Indians of Third Mesa"* by Mischa Titiev (International Journal of American Linguistics, vol. 11, pp. 189-190, 1945).

3 Ralph Linton gives editorial reasons for not including linguistic problems among "The Scope and Aims of Anthropology" (in *The Science of Man in the World Crisis*, New York, 1945, pp. 7-8); Clyde Kluckhohn gives criticisms and makes recommendations on linguistic problems in *The Personal Document in Anthropological Science* (in *The Use of Personal Documents in History, Anthropology and Sociology*, Bulletin, Social Science Research Council, no. 53, 1945), pp. 83, 91, 111-114.

culture have not held themselves aloof from the language of those who were born in that culture.[4]

If what a man says and how he says it is relevant to an understanding of his culture and personality, it may still be argued that linguists do not make descriptive statements which students of culture and person-in-a-culture can use. If so, then more coöperative studies between linguists and culturalists are called for, and both linguists and culturalists should point out from time to time the bearing of linguistic detail on cultural detail. This is one of a series of papers which incidentally or directly attempts to do this.[5]

Language is part of culture. Everyone acknowledges this theoretically and then tends to treat the two separately in actual work

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4 Robert Spott and A. L. Kroeber, *Yurok Narratives* (University of California Publications in American Archaeology and Ethnology, vol. 35, no. 9, 1942), p. vi. It would be possible to make a long list of ethnological studies, and a parallel list of linguistic studies, including native texts, to show that ethnologists who have described Yurok or Havasupai or Crow or Kwakiutl cultures, for example, have not excluded themselves from the study of Yurok, Havasupai, Crow, or Kwakiutl languages.

5 The books which have most influenced the science of linguistics have sometimes been criticized for failing to do precisely what Ralph Linton says they do: treat linguistics as isolated and self-contained. Thus, Leonard Bloomfield's great book, *Language* (New York, 1933), takes as its point of departure the stimulus-response formula of psychology (pp. 21-41); in his latest paper, Bloomfield begins with the following reference to culture:

"Every language serves as the bearer of a culture. If you speak a language you take part, in some degree, in the way of living represented by that language. Each system of culture has its own way of looking at things and people and of dealing with them. To the extent that you have learned to speak and understand a foreign tongue, to that extent you have learned to respond with a different selection and emphasis to the world around you, and for your relations with people you have gained a new system of sensibilities, considerations, conventions, and restraints. All this has come to you in part unnoticed and in part through incidents which you remember, some of them painful and some pleasurable. If the culture is remote from your own, many of its habits differ very widely from those of your community. No exception is to be made here for the peoples whom we are inclined to describe as savage or primitive; for science and mechanical invention, in which we excel them, represent only one phase of culture, and the sensitivity of these peoples, though different, is no less than our own" (Yale Review, vol. 34, 1945, p. 625).

See also the recent series of papers by ethnologists discussing the value of a command of a native language to cultural field-work: Jules Henry, *A Method for Learning to Talk Primitive Languages* (American Anthropologist, vol. 42, pp. 635-641, 1940); A. P. Elkin, *Native Languages and the Field Worker in Australia* (American Anthropologist, vol. 43, pp. 89-94, 1941); Robert H. Lowie, *Native Languages as Ethnographic Tools* (American Anthropologist, vol. 42, pp. 81-89, 1940); Margaret Mead, *Native Languages as Field-Work Tools* (American Anthropologist, vol. 41, pp. 189-205, 1939).

because the techniques of gathering data and making analyses are not the same for both. The result of this practical divorce of linguistic work from cultural investigation often means that the final linguistic statements and the final cultural statements are incomplete; or statements covering the ethno-linguistic situation as a whole are neglected.

Talk and non-vocal behavior together constitute an ethno-linguistic situation. The etiquette of receiving a guest is a good example of an ethno-linguistic situation. In one culture, the guest is greeted and replies to the greeting (verbal) while guest and host shake hands (non-verbal); the guest is seated verbally, so to speak, or non-verbally, as when the host extends a chair. The verbal part of this situation may be neglected by the ethnologist, who may content himself with noting that guests have their hands shaken and are seated; it may also be neglected by the linguist, who may content himself with recording the habits speakers follow in narrative style and thereby miss special morphemes and even peculiarities of structure which are used habitually in this particular situation.[6] In a parallel ethno-linguistic situation, talking may have a different time distribution in reference to non-verbal behavior. For instance, in another culture, the guest might confine himself to non-verbal behavior while entering the dwelling of the host, and while seating

6 The only technical linguistic term used in this paper is *morpheme*, which is, as Bloomfield says in *Language* (p. 161), "A linguistic form which bears no partial phonetic-semantic resemblance to any other form. . . . Thus, *bird*, *play*, *dance*, *cran-* [as in *cranberry*], *-y* [as in *Johnny*, *Billy*], *-ing* [as in *playing*, *dancing*] are morphemes. Morphemes may show partial phonetic resemblances, as do, for instance, *bird* and *burr*, or even homonymy, as do *pear*, *pair*, *pare*, but this resemblance is purely phonetic and is not paralleled by the meaning."

For those not accustomed to linguistic detail, it is difficult to follow the exposition of the arrangement of morphemes in order, modulation, selection, and phonetic modification: for the last, citing Bloomfield again, "Strictly speaking, we should say that the morpheme in such cases has two (or, sometimes, more) different phonetic forms, such as . . . *duke* and *duch-* [as in *duchess*], and that each of these *alternants* appears under certain conditions" (*Language*, p. 164). In working with certain morpheme alternants in Turkish (suffixes), Voegelin and Preston assign one Arabic numeral to summarize all the phonetic forms of one morpheme, and then give the distribution of morphemes as sequences of these numerals. In working with selection of morphemes, Harris assigns letters to certain classes of morphemes (as A and N), and then equates these classes (AN = N); Hodge applies this in his work on Hausa (Z. S. Harris, *Methods in Descriptive Linguistics*, ms., 1945; Carleton T. Hodge, *Morpheme Alternants and the Noun Phrase in Hausa*, Language, vol. 21, pp. 87-91, 1945).

himself at some appropriate place, without being asked to do so by the host. After a silent period, conversation is begun.[7] Again, the question arises as to what morphemes are used in the post-silent period, what structural peculiarities appear in the first remarks of guest and host.

Talk and silence are differently distributed in these parallel but contrasted ethno-linguistic situations. In the first, talking accompanies entrance of the guest, and the acts of handshaking and getting seated; in the second, the non-verbal and verbal acts are carefully spaced so as not to overlap. A description of the latter which omits mention of the verbal etiquette involved in the post-silence talk is as incomplete as a description of the non-verbal acts described without the greetings which accompany them in the first type.[8] To describe special morphemes or sequences of morphemes used in greetings, it is necessary to have a knowledge of other morphemes and sequences which are not "special": to show the transition from the initial conversation of the post-silent period to other conversation, necessitates recognition of an everyday conversational style.[9]

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7 We have few clear negative statements that conversation is avoided, but this is often implicit in the ethnographic descriptions. W. W. Skeat and C. O. Blagden (*Pagan Races of the Malay Peninsula*, 2 vols., New York, 1906: vol. 1, p. 565) say the women of the Jakun (Malay Peninsula) household disappear when a guest enters, and return to offer prepared food a half hour after his arrival; Murdock cites the Semang of the Malay Peninsula as not greeting one another, even after prolonged absence; the Blackfoot have told us that they do not talk for about five minutes when making social calls.

8 Often enough the non-verbal behavior is described in one volume (the ethnography), the verbal behavior in another volume (the texts); but R. H. Lowie, more often than not, describes both kinds of behavior in one ethno-linguistic situation (*The Crow Indians*, New York, 1935, pp. 90, 143, 149, 160).

9 The problem of cultural definition or meaning remains the most difficult one in linguistics. Some linguists do not face it: they say meaning cannot be defined in linguistic terms. Partly as a result of facing this problem, descriptive linguistics has shifted its focus from (1) the word to (2) the sentence or single utterance to (3) the conversation (two or more utterances spoken by two or more individuals) as the basic sample of normal linguistic behavior. Everyday conversational style may be said to be that followed by adult members of a household, in making reference to activities of frequent occurrence. See Franz Boas, *Introduction* (in *Handbook of American Indian Languages, Part I*, Bulletin, Bureau of American Ethnology, no. 40, pp. 59-73, 1911) and *Introductory* (International Journal of American Linguistics, vol. 1, pp. 1-8, 1917); C. F. Voegelin, *Continuation of International Journal of American Linguistics* (International Journal of American Linguistics, vol. 10, pp. 109-112, 1944) and *The Place of Language in Understanding Area, and Vice Versa* (in *Educational Planning for Peace*, Schoolman's Week Proceedings, University of Pennsylvania Bulletin, pp. 275-280, 1944).

Talking correlates in various ways with non-vocal behavior. Talk and non-verbal behavior together provide the fullest and richest interpersonal relationship: there is always something lacking with anything less than the combination of both kinds of behavior. Communication is, of course, possible without the combination of the two. Sign language of the Plains or Australian type is not derived from any one language any more than is the Chinese ideographic writing (serving for all Chinese languages) derived from one of the Chinese languages, or any more than are Arabic numerals derived from a spoken language. But alphabetic writing is derived from the one language of which it is the "written form"; and the deaf and dumb sign language is in turn derived from a given "written form" of a given language. The alphabetic "written form" is not only derivative but also more or less thin in its use in interpersonal communications. As a result, great numbers of individuals in our culture make long distance telephone calls rather than resorting to the cheaper device of writing letters or telegrams. But even in telephoning, non-vocal gestures are not communicated with talk. Hence, despite the convenience of telephone calls which are often made in large business and government agencies and universities, individuals still take the trouble to visit in each other's offices for the opportunity of having not only talk (which the telephone gives), but also non-verbal behavior (which a face-to-face conversation makes possible).

The relationship of that part of the behavior which is wordless to the verbal part of the behavior is more intimate than one thinks at first blush. It is certainly not characteristically a random combination of two kinds of behavior which may be actualized together or separately (as a goodbye wave of the hand with or without saying goodbye). In the combination, one is appropriate to the other. Contrast the two following utterances which may be said by a clerk behind a counter: (1) "Sorry, the store is closed" (said with a deprecating smile and a slight shake of the head); (2) "Can't you see the store is closed!" (said with a frown, and a vigorous or abrupt shake of the head). Other equally appropriate words and gestures might be substituted for (1) and (2) above: certain morphemes might be appropriate for (2) but not for (1), as English *ain't*. In this sense, one neglected part of ethno-linguistic analysis is cultural appropriate-

ness of morphemes, or cultural definition, as Stanley Newman calls it.

> The cultural definition of *ain't* and gum-chewing fits quite naturally in a stratified society, where certain groups consider themselves to be superior to other groups, where practices in talking, eating, modes of dress and grooming, housing, etc., become charged as symbols of status. Such practices may indicate, not only the social stratum to which we belong, but also our affiliation in terms of sex, age-group, and other types of culturally defined classifications.[10]

Another correlation between talking and non-vocal behavior lies in the field of personality. As Newman points out in the paper just quoted, a hyper-active person will have both energetic bodily movements and a vigorous manner of articulating sounds; a slow-moving person will have a lax manner of articulating sounds. The report of verbal expression can usually be made more exact than the report of non-verbal behavior when we wish to state, on short acquaintance, what "special plea" (if any) a person may be making: what underlying role, what personality or cultural aspect of himself, he appears anxious to exhibit, openly or slyly. We give the example of a young woman who uses esoteric language appropriate to horse trading. In giving the age of an animal, she will say "He is a short two-year-old." When asked whether this means that the animal is just short of being two years old, she will reply, "Of course not—I would have said he was coming two if he was coming two." She also dresses in boots and brightly colored shirts to exhibit her association with horse culture. The non-verbal part of the behavior is relatively ambiguous by itself: a young woman might go in boots and shirts of a certain cut following a temporary trend in style.

There may be unsuspected limitations revealed in these correlations once the problem is extensively explored. To mention only the obvious, physiologic limitations impose a short range of variability on certain kinds of activities. The number of meals eaten a day are recorded for various cultures as two or three or four or five or six: the extremes of non-verbal variability here are rather narrow.

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10 Stanley Newman, *Cultural and Psychological Features in English Intonation* (Transactions, New York Academy of Sciences, series 2, vol. 7, no. 2, 1944), p. 47. While Newman's objective is reached by sharpening the distinction between linguistic system and cultural situation, our analysis proceeds from an undifferentiated ethnolinguistic situation or corpus of primary data. The danger, we argue, is that important segments of these data may be neglected by ethnologists and by linguists alike.

But talking which accompanies regular meals may vary from zero to a point where some food is eaten preceding the meal to allow the diner to focus his complete attention on the dinner table conversation.[11]

Linguistic analysis of morpheme sequences may reveal facts about the associated culture. Contrast, in English, single morpheme words for technologically simple items in the material culture or items in other aspects of the culture which are well embedded or taken for granted, as *chair, house, father, love,* on the one hand, with words consisting of more than one morpheme for technologically complex items in the material culture, as *automobile, airplane, helicopter, administration, psychology.* Words with the morphemic constituency of the latter type, have a statistical probability of being used for relatively recent innovations. Their morphemic character thus serves as something of an index of these innovations.[12]

An analysis of specific morphemes in sequence may reveal what is masked if the utterance is taken only as a whole. A speaker, trying to conceal the import of some part of his utterance, may deliberately rely on the absence of close analysis; or he may deliberately highlight certain morphemes by contrastive repetition. One may experiment with the frame *not* —, *but* — in which the dashes are replaced by two or more morphemes, with the first morpheme after *not* being identical with the first morpheme after *but.* The identical morpheme is *re-* in examples like *We must not reaffirm, but readjust.* Even good translations rarely show the use of such devices from one language to another. Under this heading, we should list all kinds

11 G. P. Murdock (*Our Primitive Contemporaries,* New York, 1934, p. 94) gives a convenient sample of the number of meals eaten a day in various cultures. A culture may be asserted to have no regular meals, and in their place constant piecing by individuals; thus, H. C. Washburne and Anauta (*Land of the Good Shadows: the Life Story of Anauta, an Eskimo Woman,* New York, 1940, p. 18) deny regular meals for certain Eskimo groups—but they also deny other habits usually ascribed to the Eskimo, e.g., wife hospitality.

12 The morphemes of our second group of words are members of a particular group which occur with each other and which do not occur with morphemes of our first group. Not all words for relatively recent cultural innovations have the "learned" (erudite) structure of our second group. See L. Bloomfield, *The Structure of Learned Words* (in *A Commemorative Volume Issued by the Institute for Research in English Teaching,* pp. 17 ff., Tokyo, 1933).

of puns, as well as all kinds of deliberate and accidental errors in talking. In the Freudian kind of slip of the tongue, the speaker begins articulating one morpheme but quickly replaces it by a parallel morpheme more appropriate to the cultural situation, but less revealing of the speaker's attitude. Thus, in addressing a meeting of university representatives, one speaker made reference to the *com-operative universities* (corrected quickly to *coöperative universities*); he told personal friends later that he had almost said *competitive universities.*

When a Shawnee dies, he is said *to lie down;* an invitation to a war party is literally *let's play,* and a scalp is called *soup.* Here we have euphemisms for death and war: in Western European culture, euphemisms are used for sex, as well as for body parts involved in some but not all physiological functions and for death; but while indirections of speech are also used in talking about war in our culture, these indirections are more complicated than the use of euphemisms.

Even if a term does not refer to the tabooed body parts in English, it may be avoided when the translation meaning from another language is learned. Thus, the title for the Allied Military Government of Occupied Territories was less often abbreviated to AMGOT after it was learned that this abbreviation might be translated in Turkish as am *vulva* and göt *anus.* Turkish itself does not appear to suffer so exquisitely from taboo of body part terms: the common expression for grapefruit is *girl's breasts* (kız memeleri) and for doughnut *woman's belly* (kadın göbegi).

The frequency with which morphemes are uttered indicates something about the status of the associated culture. It may be predicted that certain cultural objects will be more widely used than they are at present, if the terms for these are more frequently used than the objects themselves. More people talk about airplanes than use them. The following are typical utterances: *Have you ever been up in an airplane? I wonder how it feels to go in an airplane. It's as streamlined as an airplane.*

Such frequency may indicate a readiness for acceptance of the object.[13] But where there is a technological or geographic limita-

13 That is, readiness for acceptance when an object in material culture is involved. In psychiatric case studies, there are records of catatonic repetitions of certain words

tion, the diffusion of the object cannot be effected despite the readiness for acceptance. In the New Guinea mountain area (at a place dubbed by newspapers Shangri-La) a plane crashed, and for weeks after the crash other planes hovered over the area to rescue the fallen pilots. The natives of Shangri-La must have spoken about airplanes during the weeks when planes were flying overhead; these conversations might continue to the present day, and might be incorporated into the folklore of the people. But airplanes cannot be freely used in the New Guinea mountains, however willing the natives are to adopt them.

It is possible to say something about the past of objects frequently mentioned, like airplanes, and less frequently mentioned, like trolley-cars. The ratio of speaking about planes to using them is far greater than that of speaking about trolleys to using them. In such cases we may say that the overly-mentioned cultural element has recently undergone a discrete development in the culture.

A continuing use of particular words with greater frequency than the occurrence of the cultural elements marked by the words may indicate high prestige of these elements or other special symbolic values in the culture. We think of the frequent use of the morphemes *Paris, Parisian* by certain women who do not often go to France.

Certain metaphors or metaphor-like expressions may be uttered frequently by individuals who have no personal experience with the literal significance of parts of the expression, as *ploughing* or *cows* or *donkeys* in the following examples. The continuing metaphoric expressions would then enable us to reconstruct, with an extensive body of materials, an earlier culture, or demonstrate borrowing from a neighboring culture. Examples are (1) a student in a city high school speaking of *the ship ploughing through the sea,* or (2) saying someone will have to wait *until the cows come home;* (3) a father who has always lived in Istanbul, where there is a law against having donkeys in the streets, saying he will beat his son *until the donkey comes from the water* (ešek sudan gelinciye kadar) as though he were living in a village.

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or phrases as well as of repeated movements of fingers or arms; swearing (or use of morphemes which are culturally regarded as obscene) is sometimes regarded as a symptom of neurotic aggressiveness.

Functional distinctions in culture may be reflected by single morphemes, by labels, by special names. All fieldworkers recognize this in gathering data. If baskets are being studied, we ask if there is a generic term for any and all kinds of baskets. Then observing three baskets of different sizes, we ask for the names of each: if there are but two names, one for the smallest, one for the two larger baskets, we try to find out whether there are functional distinctions which parallel the differences in names. The smallest basket may be used as a water container, the larger ones not. One of the great difficulties in this apparently simple procedure, is the problem of distinguishing between a single name or label which people use for an object, and an impromptu description which is made for the benefit of ethnographers or others outside the culture. One must at least be able to recognize that the term given for the smallest basket is the generic term for *basket* plus a diminutive suffix, let us say; perhaps there is quite a different term used for the two larger baskets. But one must do more than ask for the native names; it is necessary to observe whether the term *basket* plus diminutive suffix is actually used in a natural context making a reference to a basket of the small type. Such observations may be made while people are engaged in their daily activities or may be made from a study of texts recorded in the native language.

Material culture appears to be more tangible than social organization, yet it involves all the problems of social organization if it is functionally described. Names for containers like *box, crate, carton, sack, bag, poke* may have different areal and cultural distributions, some of the terms being generally used, others being restricted to technical conversation or small dialectic areas. We use *bag* widely in both senses and *poke* only in the expression *pig in a poke;* but *poke* appears to be as freely used as *bag* in certain areas (as in parts of southern Indiana) at the present time.

It is possible to distinguish culturally between older and younger siblings and at the same time employ a kinship system which lacks specific terms for such siblings. Conversely, a kinship system may make a terminological distinction not reflected by the cultural role of the kin distinguished. We are then faced with an historical problem: does the non-functional distinction in terminology reflect an

earlier culture or a borrowed culture in which the culture did reflect the terminology noted?

The fact remains, therefore, that a single morpheme for mother's brother, say, in contrast to another single morpheme for father's brother provides a reliable hint of a present or past function of these avuncular relations in the total kinship economy. Such a hint or index is lacking where speakers have only one non-committal term for *uncle* without paired terms which specify the sex of the connecting relatives.

Long lists of single morphemes on all aspects of the culture, or lists of specific terms (some of more than one morpheme) which tell how far and in what respects the culture is committed terminologically—these in themselves serve as a guide to the ethnologist, leading him to discover cultural distinctions which are also marked in other, non-verbal ways. It is by no means equally certain that all non-verbal behavior is reflected terminologically.[14]

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14 The inhabitants of the anonymous town described in *Plainville, U. S. A.* (New York, 1945, p. 115) explicitly disavow any class stratification in their society, but are observed by James West to have a class-stratified society. We must await further information (extensive records of actual conversations) before we can say whether or not this class-stratification is reflected in specific terms for the class system in operation. Class systems may be both terminologically specific and also reflected in dialect boundaries or barriers which require those tempted to move across the boundary to learn first the upper class dialect. In certain parts of India, greetings serve to reaffirm the caste of the speakers. "My understanding of the actual situation is that the form of greeting is determined by the caste of the person addressed, which obviously in that case must be known before the greetings are exchanged. This will be known either by previous acquaintance, or by such social, non-linguistic features as dress, style of hair-dressing, face-painting, jewelry, turban, or the like" (M. B. Emeneau, personal communication).

GLASS AND PAPER:
AN HISTORICAL STUDY OF ACCULTURATION

MARGARET T. HODGEN

THE ORGANIZED INVESTIGATION of change in culture, in contrast with its more generalized sociological discussion, has been carried on almost exclusively by anthropologists or acculturationists. By virtue of an increasingly critical attitude toward procedure, a cleavage has been made by them between changes which arise from invention and those which result from contact through borrowing or diffusion. Briefly stated, studies of invention are ordinarily focused on traits originated within a culture by some deviating but participating member. Studies of borrowing, diffusion, or acculturation concentrate on elements brought in by native or alien carriers. Acculturationists are distinguished from other anthropologists by the value they place upon the use of historical data in the study of culture contact. Desiring to avoid assumptions derived from undated distributional analyses and patently frail criteria for the determination of trait sequences, they have not only chosen to investigate cases of trait transmission over which they can exert at least a measure of historic control, but they have achieved illuminating results by approaching these cases with a set of basic questions, variously phrased and emphasized, designed to recover the nature and length of contact or exposure; the circumstances which brought it about; the role of individuals as donors, carriers and recipients; and the events or circumstances associated with trait acceptance or rejection.[1]

So far, however, the scope of acculturation study has been unduly circumscribed, perhaps by the tight but unrealistic boundaries of the formal academic disciplines. At all events, since anthropologists have fostered the new mode of attack on the old problem, the investigation of the "acculturation situation" has been restricted largely to pre-literate peoples, or to their cultures during relatively brief contacts with Europeans. Acculturationists have thus been denied

1 Melville J. Herskovits, *Acculturation: the Study of Culture Contact* (New York, 1938), *passim*.

access to dated or documented materials, or have employed them only as they reflect a limited time-span and the phenomena of trait transmission in relatively unadvanced cultures. Moreover, although it may be assumed that varying cultures, as products of a common humanity, may have incorporated new elements according to some common and uniform sequence of events, that sequence has not been sought for by an exhaustive investigation and comparison of both historical and non-historical peoples. Plainly, these omissions are not necessary nor scientifically sound. They have made possible the statement that "there is not a study now extant which tells exactly what happened when one society borrowed elements of culture from another society."[2] There is need for the extinction of artificial barriers to inquiry within the single study of man, and a friendly alliance between anthropology and history. Dated history, for the anthropologist, can supply an almost untapped reservoir of data for decoding some of the secrets of the acculturation process. Anthropology, for the historian, can reveal problems not implicit within the narrow limits of the construction of historical narrative.

With these possibilities in mind, and to test the fruitfulness of cross-fertilization among the social sciences, an effort has been made in the following pages to determine what kind of results ensue when the acculturationist's questions are put to documented and dated history: or to be more specific, to the history of English culture, the history of its contact with continental groups, and the history of the introduction of two technological traits, glassmaking and papermaking. In order to disengage relevant facts from a narrative or antiquarian matrix, the materials have been mapped and given a parallel expository arrangement. To facilitate comparison between the older and newer procedure, the maps present the dated and undated distributions of the two traits. The exposition of their dissemination states (1) the length of exposure before acceptance; (2) the dates,[3] locations, individuals, and circumstances associated with their first establishment in Britain; (3) the dates, locations, individuals, and circumstances associated with their subsequent dis-

2 Ralph Linton, *Acculturation in Seven American Indian Tribes* (New York, 1940), p. 490.

3 The dates assigned to traits refer to the year of their actual introduction in a community, if that is obtainable; or to the year of first historical mention.

semination; and finally (4) the common features observable in the exposure, establishment, and dissemination of the two traits.

That all of the historical data bearing on the subject should be exhaustively collected and analyzed goes without saying. But since most of the facts are well known to students of the history of technology only those rarely mentioned or subject to controversy have been documented in the footnotes. These contain, nevertheless, all of the essential titles. The purpose of the inquiry is not antiquarian. It should be regarded as an experiment in the use of dated materials, involving the comparison of the histories of the adoption of two traits in a single cultural area, to determine whether or not these histories present any similarities or common features, any correspondences suggesting an "historical" process of diffusion.

GLASSMAKING

The Exposure of England to Continental Glassmaking (23-1225 AD)

Glassmaking was practised in Egypt as early as 1200 BC, was well-known to the Romans in 70 AD, and was transmitted by them to Northern Europe. British contact with continental glassmaking began at the time of the Roman conquest. Some scholars feel that the glass objects then used in Britain were imported from Roman kilns in Gaul. Others, relying on a statement in Pliny's *Natural History*, maintain that it arrived in England in lumps for re-melting in Roman furnaces by native artisans. The sites of glass fabrication during the Roman period, if such existed, were Castor near Northampton, Wilderspool in Cheshire near Warrington,[4] and London (Fig. 1).

During the Anglo Saxon period, at least two efforts were made to introduce the craft into Britain and to train native workmen. In 669 St Wilfred secured the services of French glass men to glaze the windows of a church in York, and in 676 the Abbot of Wearmouth employed craftsmen from Gaul for a similar purpose[5] (Fig. 1).

During the medieval period, fragmentary reports and various authorities indicate the probable presence of glassmaking at Tolt,

4 S. E. Winbolt, *Wealdon Glass: the Surrey-Sussex Glass Industry* (Hove, 1933), p. 3.

5 W. E. S. Turner, *The British Glass Industry: its Development and Outlook* (Journal, Society of Glass Technology, vol. 6, Sheffield, 1922), p. 110.

Feathercombe, and Hambledon in Surrey before 1200;[6] in the Forest of Delamere in Cheshire in 1284;[7] in Colchester, Essex, in 1295; in Bristol in 1313; in Gloucester in 1330; in Ulverston and York in 1351; in Beckley, Sussex,[8] and Buckholt, Hampshire;[9] and in Rugeley, Abbots Bromley and Wolseley Wood, Staffordshire[10] (Fig. 1).

The Establishment of Glassmaking in England (1225-1549)

The first firm implantation of the art in Britain occured in the early thirteenth century in Chiddingfold, and several neighboring villages, in the southwestern corner of Surrey on the border of Sussex, and here continued for more than 350 years (Fig. 1). In 1225-26 Laurence Vitrearius (glassmaker) acquired land in Pickhurst one mile from Chiddingfold and in 1240 he is mentioned as providing glass for King Henry III's Abbey of Westminster. Laurence probably came from Normandy and was a maker of bracken glass.[11] During the thirteenth and fourteenth centuries several other glassmaking sites have been reported in the immediate vicinity of Chiddingfold.[12] The individuals associated with the introduction of the trait were all foreign. John de Alemayne was from Lorraine; John Schurterre was French;[13] and the Peytowes were probably from Poitou. These men and their families contributed to the vitality of the craft in the district and in 1350 or thereabouts extended their operations over the county line into Wisborough Green, Kirdford, and Sonwood in Sussex.[14] In 1568 and for a few years thereafter they were joined by a group of French Huguenot glassmaking refugees,

6 Winbolt, *op. cit.*, p. 6.

7 L. F. Salzman, *English Industries in the Middle Ages* (Oxford, 1923), pp. 186, 190 note 1.

8 Winbolt, *op. cit.*, pp. 25-26, 51.

9 *Victoria County History, Hampshire, Vol. V* (London, 1900-12), p. 491; E. W. Hulme, *English Glassmaking in the 16th and 17th Centuries* (Antiquary, vol. 30, 1894), p. 214.

10 T. Pape, *Medieval Glass Workers in North Staffordshire* (North Staffordshire Field Club Transactions, Newcastle-under-Lyme, vol. 77, 1933-34), pp. 74-77. The evidence suggests that there was considerable activity in glassmaking at this time in Staffordshire.

11 Winbolt, *op. cit.*, p. 7.

12 The place names in the Chiddingfold district associated with 12th and 13th century glassmaking are Chaleshurst, Pickhurst, Schurterrehurst (Surrey lands), Frome's Copse, and others.

13 Schurterre was possibly a corruption of Chartres (Winbolt, *op. cit.*, p. 9).

14 *Victoria County History, Sussex: Vol. II* (London, 1905-40), p. 254.

but by ca. 1615 the craft had ceased in the district. In the meantime, in the fourteenth and fifteenth centuries, there is some vague evidence that the art was being practised, presumably by native craftsmen, in Henley and Benson, Oxfordshire; and in Stokenchurch, Buckinghamshire.[15]

The Dissemination of Glassmaking in England (1549-1799)

The dissemination of glassmaking into other communities began with great suddenness in the latter half or quarter of the sixteenth

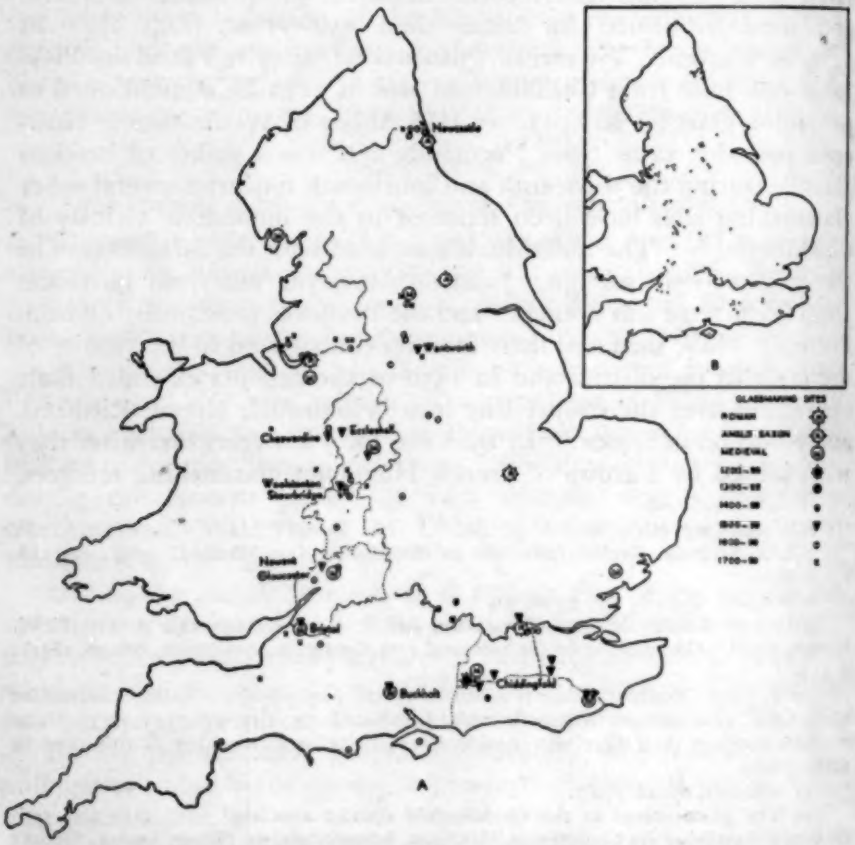

Fig. 1. A. Dated distribution of glassmaking sites. B. Undated distribution.

15 Winbolt, *op. cit.*, p. 26.

century, moving west and north and finally reaching Northumbria and Cumberland. Between 1549 and 1575 the trait was received into three new communities in the southwestern counties of England,[16] and between 1575 and 1600 it not only entered two more in this area[17] but spread far afield to Buckholt in Hampshire, in 1575; to Newent in Gloucestershire in 1580; to Eccleshall and Woolstanton in Staffordshire in 1586; to Cheswardine in Shropshire in 1586; and to Wentworth in Yorkshire in 1593 (Fig. 1).

Throughout the seventeenth and eighteenth centuries the same or even more rapid dispersion took place in and about the old London area; near Bristol[18] and Gloucester;[19] on the border between Staffordshire and Worcestershire in the Woolstanton and Stourbridge region;[20] in Lancashire,[21] Nottinghamshire,[22] Yorkshire,[23] at Tynemouth[24] and elsewhere (Fig. 1). The numerical aspects of this dissemination may be observed in Table 1, which indicates that after three centuries, during which glassmaking had been concentrated in the one district of Chiddingfold and nearby Wisborough, it entered 16 new communities in the sixteenth century, 30 in the seventeenth century, and 24 in the eighteenth century.

To what may this rapid diffusion be ascribed? What induced communities, which for centuries had been held fast in a customary round of medieval trades and techniques, to admit a new craft? The answer is to be found, at least in part, by turning to an analysis of the relation between glassmaking initiative and the role of foreign glassmakers, considering meanwhile relevant circumstances or events in the political, economic, and religious history of England and the

16 London, 1549; Knole, Kent, 1558; Alfold, Surrey, 1560.

17 Beckley, Sussex, 1579; Northiam, Sussex, 1581.

18 In 1696 at Odd Down near Bath; in 1726 at Stanton Drew, and in 1788 at Nailsea, all in Somersetshire.

19 In 1616 at Newnham.

20 In 1613 at Stourbridge; in 1621 Amblecot; in 1665 in Dudley, all in Worcestershire. And in 1780 at Wordsley, Staffordshire.

21 In or before 1605 at Houghton; in 1696 at Prescot and Warrington; 1715 at Liverpool; 1721 at Sutton; 1754 at Atherton; 1759 at Salford; 1785 at Manchester, and 1773 St Helens, all in Lancashire.

22 In 1691 at Nottingham and 1696 at Awsworth.

23 In 1614 and 1643 at Gawber and Bolsterstone; in 1690 at Ferrybridge; in 1726 Rothwell Haigh; 1738 Leeds; 1740 Catcliffe.

24 In 1617 Newcastle; 1650 South Shields; 1670 Howden Pans; 1694 Gateshead; ca. 1750 Seaton Sluice; 1751 Sunderland; 1788 Lemington.

TABLE 1

Number of New Glassmaking Communities by Century *

Century	*Total*	*Founded by foreigners*	*Associated at time of founding with foreign names*	*No indication of foreign influence*
1200-99	1	1	—	—
1300-99	1	1	—	—
1400-99	3	—	—	3
1500-99	16	9	4	3
1600-99	30	8	4	18
1700-99	24	4	1	19
Total	75	23	9	43

* This table includes the establishment of the Chiddingfold furnaces in the 13th century, but omits all other ancient and medieval glass sites which must be judged impermanent.

continent; the attitude of native Britons to foreign carriers of new traits; and the natural advantages possessed by certain regions for glassmaking.

Throughout the 300 year period of dissemination (from 1549 to 1799), during which 70 new glassmaking communities appeared, over 40 percent are clearly associated with the names of continental glassmakers, while in over 30 percent glassmaking was introduced and established by foreigners.[25] These foreign glassmakers are to be divided into two groups: the French, including the French Huguenots, and the Italians and Flemish. French and French Huguenot names are too numerous to itemize, but the most frequently mentioned, in various spellings, were De Hennezel (Henzel, Henzey, De Heneje, Ensell), De Thietry (Tittery, Tyttery), De Thysacs (Tyzack, Tisad), Bigault (Bigoe), and De Houx (De Hoe, Hoe). Dutch enterprise is sometimes indicated by the statement that "a Flemish glasshouse existed here" and occasional reference

25 In some cases, particularly in the 16th century, there can be no doubt that foreign glassmakers, or glass workers of foreign descent, supplied the initiative which led to dissemination. In other cases, the same is to be inferred, though on less conclusive evidence which merely places foreign craftsmen on a site of glassmaking near the date of its first mention.

to the activity of Jean Carré, of Antwerp, and Cornelius Lannoy. The presence of Venetian or Italian glassmakers is confirmed by the statement that "Venetian glass workers were brought to England" and references to certain individuals whose names were Joseph Cassiliani (Cassilari), Giacomo Verselyn (Versaline, Verzeline), Dagnia (Onelly, Dagney), and Sevastian Orlander (Orlander, Orlandion, Orlandini).

The emigration of the French glass workers to England, which began in the thirteenth century when Laurence came to Chiddingfold, was continued in the fourteenth, fifteenth, and sixteenth. In 1485, Flemish craftsmen were reported in London.[26] In the last half of the sixteenth century Venetian or Italian workmen were brought into London, Beckley, and Unstead Farm;[27] French Huguenots made their way into the Chiddingfold district, while additional French names were recorded nearby in Knole and Ewhurst.[28] It thus becomes plain that two areas received all of the earlier glassmaking emigrants from the continent. Bristol in the west of England was the destination of the French; while the London and Chiddingfold district was the center of French, French Huguenot, Flemish, and Italian immigration. In the earlier period, however (from 1225 to 1549) it was the Chiddingfold group of villages with its heavy French contingent which successfully absorbed the trait of glassmaking. There is no evidence that the Bristol area began continuous production until the eighteenth century.

After 1575, when glassmaking began rapidly to enter communities in the west and north of England, the names of Chiddingfold Frenchmen again appear either as founders or workers. There is no evidence, however, of the continued migration of Italian and Dutch glass workers after they had settled themselves in London in the fifteenth and sixteenth centuries.[29] But in 1707-12, one Onesiphorus Dagnia, probably an Italian, whose family had made glass in

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26 *Victoria County History, Surrey: Vol. II* (London, 1902-12), pp. 302-305.

27 Turner, *op. cit.*, p. 3; *Victoria County History, Sussex: Vol. II*, p. 255; Winbolt, *op. cit.*, p. 23.

28 *Victoria County History, Kent: Vol. II* (London, 1908-32), p. 401; Winbolt, *op. cit.*, p. 41.

29 With the exception of one vague statement of the presence of Dutch glass blowers in Houghton, Lancashire, in 1605 or 1636 (Francis Buckley, *Old Lancashire Glasshouses*, Journal, Society of Glass Technology, vol. 13, 1929, p. 235).

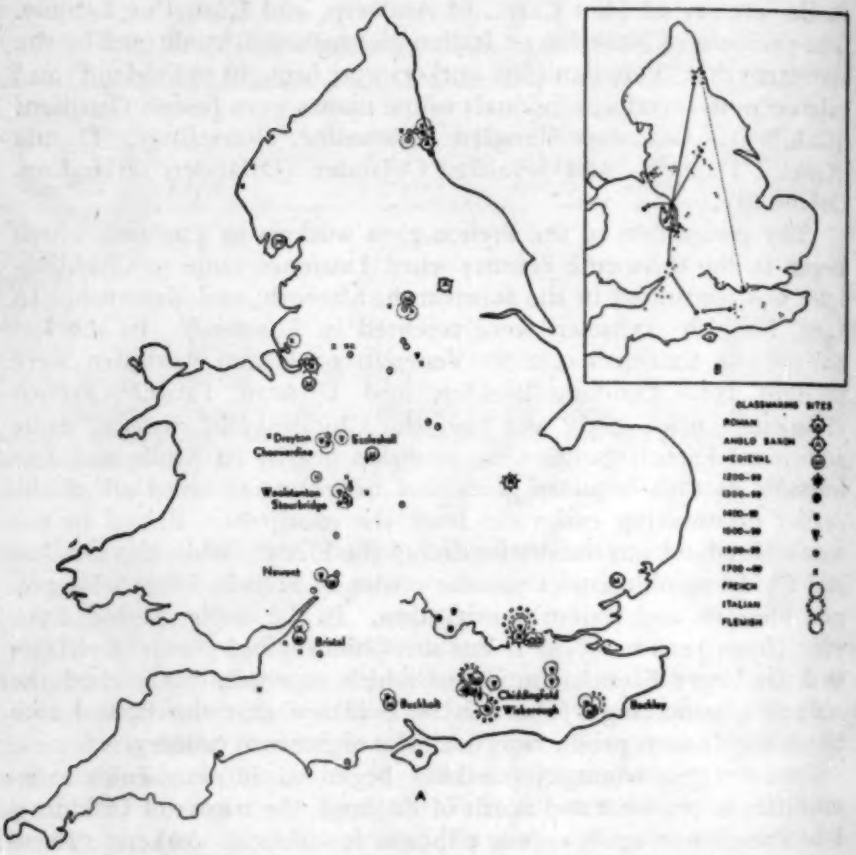

FIG. 2. A. Distribution of foreign glassmakers. B. The routes of the dispersion of Huguenot glassmakers.

Knole, Kent,[30] appeared in South Shields and there established furnaces to which were added others in Durham and Northumberland operated by members of the same family[31] (Fig. 2, A and B).

Other historical data confirm what these facts strongly suggest, namely, that about 1575 the Huguenot families of the Chiddingfold

30 *Victoria County History, Kent: Vol. III*, p. 401.

31 Francis Buckley, *Glasshouses on the Tyne in the 18th Century* (Journal, Society of Glass Technology, vol. 10, 1926), p. 32.

district, left this area and re-established themselves and their art at other sites in England. Their route in the sixteenth century is definitely traced from Chiddingfold to Buckholt,[32] from Buckholt to Newent or Eccleshall, Woolstanton and Cheswardine.[33] In the seventeenth century it is stated that French glassmaking families from Eccleshall then moved to Market Drayton,[34] Stourbridge, and nearby villages, where they were joined by migrants from Cheswardine.[35] Again in the eighteenth century the same family names re-appear as glassmakers in Prescot in 1725,[36] in South Shields in 1671, in Howden Pans in 1686, and in Gateshead in 1726.[37] A glasshouse at Rothwell Haigh employed Stourbridge workers in 1726[38] as did another in Brosely in 1732.[39] In 1738, a Tyzack from Bristol apparently founded the glass industry in Leeds.[40] And in 1780, an Ensall (Henzel) practised the craft in Tipton and Wordsley.[41]

With the diffusion of a trait or the process of community acculturation so closely correlated with alien rather than native initiative, it becomes necessary to examine the historical circumstances antecedent to the appearance of trait-bearing foreigners in England and in the many English communities which they entered. Obviously the spread of glassmaking was the outcome of two types of cultural or technological migration: one from the continent to the island of Britain, the other from Chiddingfold, an early and almost unique island center, to other British communities.

In so far as the Britain-ward movement of trait-bearing continentals is concerned, the first European artificers in glass came to York

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32 Winbolt, *op. cit.*, p. 18.

33 Ruth Donaldson-Hudson, *An Historical Survey of the Parish of Cheswardine* (Shrewsbury, 1939), pp. 179, 181.

34 T. Pape, *The Glass Industry in the Burnt Woods* (North Staffordshire Field Club Transactions, vol. 65, 1930-31), p. 47.

35 Pape, *Medieval Glass Workers in North Staffordshire*, pp. 114-115.

36 Buckley, *Old Lancashire Glasshouses*, p. 232.

37 Buckley, *Glasshouses on the Tyne in the 18th century*, p. 36.

38 Francis Buckley, *Notes on the Glasshouses of the Leeds District in the 17th, 18th and Early 19th Centuries* (Journal, Society of Glass Technology, vol. 8, 1924), p. 270.

39 Francis Buckley, *Note on the Glasshouses of Stourbridge, 1700-1830* (Journal, Society of Glass Technology, vol. 11, 1927), p. 114.

40 Buckley, *Note on the Glasshouses of the Leeds District*, p. 271.

41 Turner, *op. cit.*, p. 119.

from Gaul in 669 in response to an invitation. Their stay was short. By 758 the art had been forgotten in England.[42]

The historical record is silent concerning the reasons for the migration of the Norman, Laurence Vitrearius, to Chiddingfold in 1225, and his French, Dutch, and Italian successors. It may be surmised, however, that Chiddingfold was chosen as a site for the Laurence furnaces because of a nearby supply of sand, wood for fuel, and bracken for potash. It may well be, also, that since other communities must have been equally well wooded and ferned, Laurence was led to select Chiddingfold by a slightly earlier glass tradition there.[43] It seems unlikely that the site would have been hit upon by chance.

Fortunately, historical antecedents to the emigration of the French Huguenot glassmakers in the sixteenth century are much more clearly defined. These families were ripe to leave France for both religious and economic reasons.[44] On the British side of the Channel also historical events offered them encouragement. Impelled by the industrial backwardness of England, as compared with the continent, Elizabeth was inaugurating a system of monopolies by which enterprising persons were induced to undertake new ventures. One of the first to receive a license was the Flemish speculator and glassmaker, Jean Carré, who built a furnace in London in 1557. In 1558, he called to his assistance two Lorrainers, Thomas and Balthazar de Hennezel. Carré was undoubtedly attracted to Chiddingfold and its environs by its reputation as a glassmaking center, which was widespread in Europe.[45] In so far as the dissemination of glassmaking to other British communities is concerned, the incentives were of local origin, and involved, on the one hand, the expulsion of glass workers from Chiddingfold, and on the other,

42 *Victoria County History, Durham: Vol. II* (London, 1905-28), p. 309.

43 Winbolt, *op. cit.*, p. 14.

44 *Idem*, p. 13.

45 "Amongst the ancient maps painted on the panels of the cupboards of the Garda Roba of the Palazzo Vecchio in Florence is a map of England, in which the county of Surrey contains only two names, Guildford and 'Chedingfield' (Chiddingfold). The map was painted in 1565 and suggests that Chiddingfold, which is now a sleepy village, was then regarded in Italy as of not less importance than a county town. This may have been due to the fact that for centuries Chiddingfold had been recognized as the chief center of glassmaking in England" (H. J. Powell, *Glassmaking in England*, Cambridge, 1923, p. 10).

their search for sites in which they could find appropriate natural advantages and hospitality to the new trait.

The Huguenots had no sooner settled in the Chiddingfold district, about 1567, than they encountered native resistance, and were compelled to move to Buckholt, Hampshire, in 1575. After a brief sojourn there of about five years they moved again (writing the vagabondage of their craft into family histories by naming many children "Peregrine"), and settled either in Newent, Gloucestershire (ca. 1580), or in Eccleshall, Staffordshire (1582).[46] Once established there, the next thirty years found them extending their art to many villages, in the northwestern part of Staffordshire flowing over the border into Shropshire,[47] and in the southern part of the county traversing the border of Worcestershire.[48] There is strong reason to believe that at this time, or from 1615-20, glassmaking was introduced in Newcastle-on-Tyne by members of the same Huguenot families.[49] Before the end of the seventeenth century they were also found in other villages of Northumberland and Durham (near Newcastle) and in Warrington, Lancashire. Their initiative undissipated by time, they appeared in the eighteenth century in Prescot, Rothwell Haigh, Broseley, Leeds, Tipton, and Wordsley, while workers trained at their furnaces, were found in Bolsterstone and Ferrybridge. Indeed, the only two areas of glassmaking which seemed to have been untouched by French enterprise was that in Nottingham and that in Cumberland.

After the introduction of the coal-burning furnace, in the first quarter of the seventeenth century, glassmaking entered many new communities near the coal beds. But the choice of these new communities was apparently determined in nearly every case by the proximity of earlier wood-burning and Huguenot furnaces. In other words, although the expulsion of foreign glassmakers had

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46 Winbolt, *op. cit.*, pp. 18, 21; *Victoria County History, Hampshire: Vol. V*, p. 491; Pape, *Medieval Glass Workers in North Straffordshire*, pp. 81, 88, 116-117; *Glass Industry in Burnt Woods*, p. 47; Donaldson-Hudson, *op. cit.*, pp. 179-180; D. N. Sandilands, *The Early History of Glassmaking in the Stourbridge District* (Journal, Society of Glass Technology, vol. 15, 1931), p. 219. Authorities cannot agree on whether the Buckholt Huguenots reached Eccleshall by way of Newent or by way of Warwickshire.

47 In Cheswardine in 1586, and in Market Drayton in 1604.

48 In Woolstanton in 1586, and in Stourbridge, Amblecot, and Swinford in 1613-21.

49 *Victoria County History, Durham: Vol. II*, p. 309.

spelled the doom of their art in southeastern England (with the exception of the London area), their post-expulsion selection of glassmaking sites determined the subsequent distribution of the craft in England, and the choice among coal-bearing areas of those in which modern coal-burning furnaces were constructed.[50]

PAPER

The Exposure of England to Continental Papermaking (ca. 1150-1559)

The art of fabricating paper was practised by the Chinese at a very remote date, possibly the second century BC, and was transmitted by them to the Arabs in the eighth century AD. Four hundred years later its European manufacture was begun in Spain by the Moors in the middle of the twelfth century, and subsequently mills were established in Italy before 1276, in Germany about 1320, in France in 1348, and in Flanders in 1405. By the second half of the fourteenth century the use of paper for literary purposes had become well-known in Western Europe and not uncommon in Britain.[51] Nevertheless, it was not until the last few years of the fifteenth century, or in 1495 or 1496, that John Tate attempted its

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50 In addition to titles mentioned in preceding footnotes see: W. St Clair Baddeley, *A Glass House at Nailsworth* (Bristol and Gloucestershire Archaeological Society, vol. 42, Gloucester, 1920, pp. 89-96); W. R. Barker, *Notes on Some Old Yorkshire Glasshouses* (Journal, Society of Glass Technology [herein after cited JSGT], vol. 9, pp. 322-333, 1925); R. Buckley, *Early Glasshouses of Bristol* (JSGT, vol. 6, pp. 268-276, 1922); *Glasshouses on the Wear in the 18th Century* (JSGT, vol. 9, pp. 105-110, 1925); *Old Nottingham Glasshouses* (JSGT, vol. 10, pp. 270-274, 1926); *Cumberland Glasshouses* (JSGT, vol. 10, pp. 384-385, 1926); *The Glasshouses of Dudley and Worcester* (JSGT, vol. 11, pp. 287-292, 1927); *The Birmingham Glass Trade* (JSGT, vol. 11, pp. 374-383, 1927); *West Country Glasshouses* (JSGT, vol. 13, pp. 124-128, 1929); *Notes on Various Glasshouses* (JSGT, vol. 14, pp. 30-36, 1930); *Old London Glasshouses* (JSGT, vol. 14, pp. 137-148, 1930); J. Kenworthy, *Glassmaking at Bolsterstone, near Sheffield, from about A. D. 1650 to 1750* (JSGT, vol. 2, pp. 5-12, 1918); C. P. Hampson, *The History of Glassmaking in Lancashire* (Transactions, Lancashire and Cheshire Antiquarian Society, vol. 48, pp. 65-75, Manchester, 1932); A. C. Powell, *Glassmaking in Bristol* (Bristol and Gloucestershire Archaeological Society, vol. 47, pp. 211-258, 1925); D. N. Sandilands, *The Birth of Birmingham's Industry* (JSGT, vol. 15, pp. 227-230, 1931); H. A. Wood, *An Account of the Family of Dagnia of Newcastle and South Shields, Glassmakers* (Archeologia Aeliana, Vol. 17, pp. 229-243, Newcastle-upon-Tyne, 1920).

51 A. Blum, *The Origin of Paper* (New York, 1934); Rhys Jenkins, *Papermaking in England, 1495-1788* (in *The Collected Papers of Rhys Jenkins*, pp. 155-156, Cambridge, 1936); Sir Edward Maunde Thompson, *Paper* (*Encyclopedia Britannica*, vol. 20, pp. 725-726, 1910-11).

first fabrication in Hertford, England.[52] This mill had a very brief existence of two or three years. Two generations later two other attempts were made: one in Osterly, Middlesex, in 1556, by Sir Thomas Gresham,[53] and one in Fen Ditton, Cambridgeshire, in 1557, by Thomas Thirlby, Bishop of Ely. Both ventures were shortlived. According to Norden, the Osterly mill was in decay in 1593;[54] and and that at Fen Ditton was not making paper in 1559[55] (Fig. 3).

The Establishment of Papermaking in England (1586-1596)

The first firm establishment of the trait came two decades later in Kent in the southwestern part of Britain, almost one hundred years after Tate's abortive effort. In 1586-88,[56] John Spilman (Spielman), goldsmith to Queen Elizabeth, converted a Dartford[57] corn mill to papermaking, which continued in operation until 1739, and was later reopened to resume production. In Bemmerton, Wiltshire, a paper mill was mentioned in 1596 and noted as still existing almost one hundred years later[58] (Fig. 3).

The Dissemination of Papermaking in England (1600-1899)

The dissemination of papermaking into other communities began early in the seventeenth century with some abruptness. Mills appeared near Cambridge, on the tributaries of the Thames near London and Oxford, and in the counties of Western England, notably Warwickshire, Staffordshire, and Lancashire. In the first quarter of the seventeenth century the trait was accepted by three new communities, one of which was near Oxford,[59] another in Surrey

52 Richard Herring in *Paper and Papermaking* (London, 1856, p. 37) states that Tate's mill was located at or near Stevenage in Hertfordshire. Other authorities locate it at Sele or Hartham in the immediate vicinity of Hertford.

53 Some authorities state that the Osterly mill was established no earlier than 1574-76 (Jenkins, *op. cit.*, p. 160).

54 Jenkins, *op. cit.*, pp. 159-160.

55 Rhys Jenkins, *Early Attempts at Papermaking in England, 1495-1585* (Library Association Record, vol. 2, pt. 1, London, 1900), p. 485.

56 Jenkins, *Collected Papers*, p. 162.

57 There is some suggestion that this mill was established in 1554-59 by Thomas Thirlby (Jenkins, *Early Attempts*, pp. 484-485) and that other mills existed at about the same time in Worcestershire (G. H. Overend, *Notes upon Earlier History of the Manufacture of Paper in England.* (Proceedings, Huguenot Society of London, vol. 8, Lymington, 1906), p. 194.

58 Jenkins, *op. cit.*, p. 160. A papermaker is reported in London in 1585 *(Victoria County History, Middlesex: Vol. II,* London, 1911, p. 196).

59 East Hagbourne, Berkshire, in 1610.

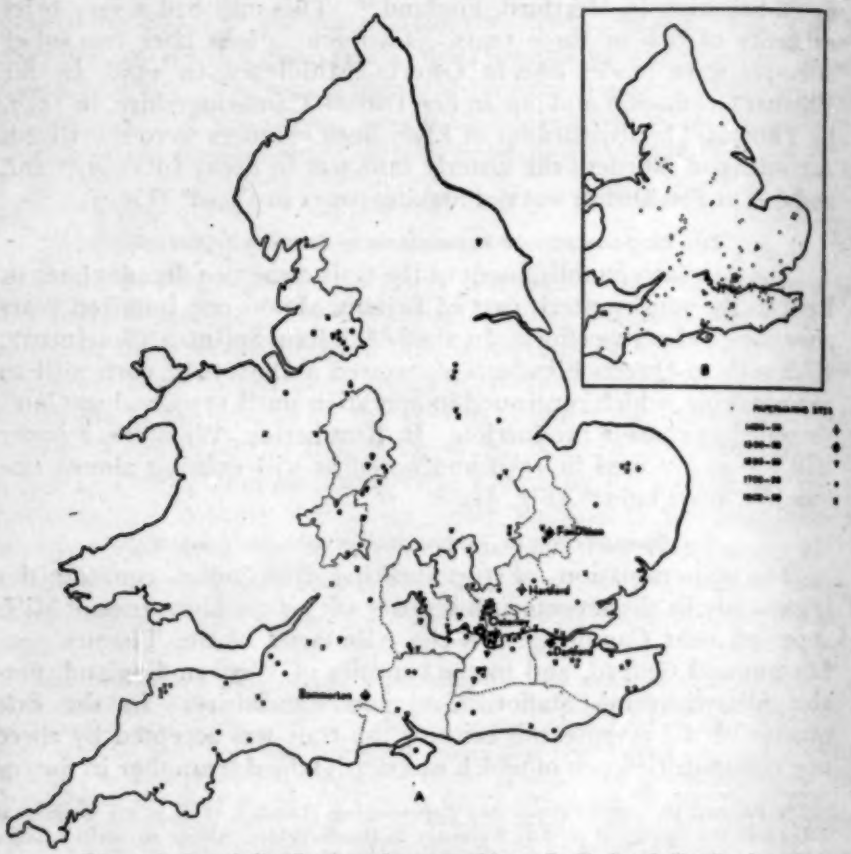

FIG. 3. A. Dated distribution of papermaking. B. Undated distribution.

relatively near London,[60] and a third in far off Staffordshire.[61] In the second quarter, individuals in nine new communities established mills: one near Cambridge,[62] six near London,[63] one in Wiltshire,[64] and one in Warwickshire.[65] In the third and fourth quarters, sixteen more new communities became the sites of paper fabrication: these

60 Godalming in ca. 1615.
61 Cannock Chase in 1616.
62 Stourbridge in ca. 1630.
63 Hounslow, Bedfont, Poyle, Colnbrook, Horton, and High Wycombe in 1656.
64 Longdeane in 1635.
65 Perry Bar in 1648.

TABLE 2

Number of Papermaking Communities by Century

Century	*Total*	*Founded by foreigners*	*Founded by Englishmen*	*Unknown founder*
1500-99	4	1	2	1
1600-99	28	3	11	14
1700-99	54	3	8	43
1800-99	51	3	10	38
Total	137	10	31	96

were near Cambridge,[66] Oxford,[67] and London;[68] and in Kent,[69] Surrey,[70] Staffordshire,[71] Devonshire,[72] Hampshire,[73] Lancashire,[74] Yorkshire,[75] Worcestershire,[76] and Buckinghamshire[77] (Fig. 3).

The numerical aspects of this dissemination may be observed in Table 2 which indicates that while in the sixteenth century only 4 communities had undertaken the fabrication of paper, 28 additional ones had admitted the trait between 1600 and 1699, 54 between 1700 and 1799, and 51 from 1800 and 1899.

To what may this rapid diffusion be ascribed? What impelled the inhabitants of villages and hamlets, who until 1586 had been held so fast in a customary round of medieval trades, to adopt a new craft alien to their habits? Here again, as in the analysis of the dissemination of glassmaking, the answer is to be found, at least in part, by turning to an historical analysis of the relation between papermaking initiative and foreign influence. Unfortunately however the documentation of the history of papermaking is not as full as could be desired. The names of founders in the vast majority of cases are unknown. Nevertheless, it is evident that earlier mills, successful and unsuccessful, were associated with foreign names; that one group of Huguenot papermakers played a role of some

66 Sawston in 1664.
67 Wolvercote in 1666 and Eynsham (Ensham) in 1682.
68 Stanwell in 1675.
69 Canterbury in 1688.
70 Byfleet in 1678 and Stoke in 1679.
71 Rugeley in 1690.
72 Plymouth in 1684.
73 South Stoneham in 1688.
74 Farnworth in 1674.
75 Thornton-le-Dale in 1694.
76 Beoley and Hurcott in 1653.
77 Wraysbury in 1658.

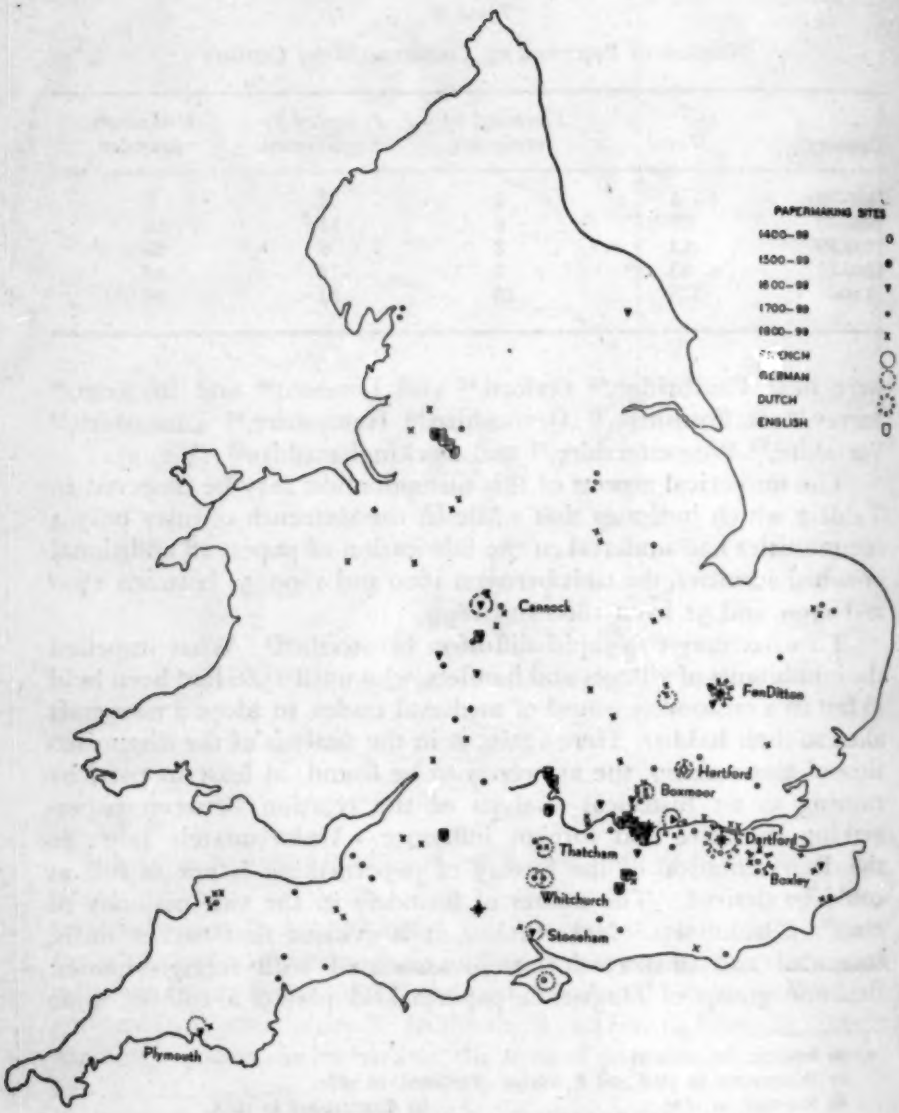

Fig. 4. Distribution of foreign papermakers.

significance; and that English initiative, which began early, was stimulated by foreign travel and contact with continental enterprise.

The first foreign name mentioned in connection with the art in England is that of the shadowy German, Remigius (Remiger, Remy), who is reputed to have followed Tate at Stevanage (or Hertford) in 1498 (or 1507) and like him to have failed[78] (Fig. 4). The influence of Dutch papermaking is likewise vaguely suggested in attempts, again unsuccessful, of Thomas Thirlby to establish mills in Dartford, Kent, in 1554-59 and Fen Ditton, Cambridgeshire, in 1557. Presumably, the Archbishop had learned some of the techniques of the craft while ambassador or commissioner to the Low Countries.[79] Thirty years later, however, in 1588, John Spilman (Spielman), a German from Lindau on Lake Constance, assisted by German workmen,[80] made Dartford the site of Britain's first successful paper mill. And to the influence of his enterprise may be traced other mills, namely, that established in Cannock Chase, Staffordshire, in ca. 1612,[81] and in Boxley, Kent, in 1717.[82] Shortly before 1684 the first attempt to set up papermaking in Devonshire was made in Plymouth by Dennis Manes, a French Huguenot. He in turn was followed by Martin Regnault, another refugee affiliated with a group of Huguenots in Southampton,[83] at the South Stoneham mill. In 1688, a member of this Huguenot congregation, Gerard de Vaux, and others established a paper mill at South Stoneham on the

78 Overend, *op. cit.*, p. 179; H. A. Maddox, *Paper* (London and New York, 1916), p. 6.

79 Jenkins, *Early attempts*, pp. 484-485. The mill at Osterly may likewise have been established in 1556 under Dutch influence. Sir Thomas Graham had long maintained diplomatic and financial relations with Holland.

80 Some students are of the opinion that the workmen employed in the first fine paper mills were French or Flemish (*Victoria County History, Kent: Vol. III*, pp. 416-417).

81 It is said the Cannock Chase mill was probably established by Robert Heyriche, an elder brother of Sir William Herrick who shared with Spilman the office of jeweller to the crown (Jenkins, *op. cit.*, p. 167 and note 1.), but a letter written by Robert Heyriche in 1612 suggests that the Cannock Chase mill had been established some years prior to 1612 (John Nichols, *History and Antiquities of Leicestershire*, vol. 2, pt. 2, London, 1795-1815, p. 625).

82 The Boxley mill was held in 1714 (date of establishment not obtainable) by George Gill who had served an apprenticeship at Dartford. In 1739 this mill was sold to James Whatman who acquired his knowledge of the craft in Holland (Jenkins, *op. cit.*, p. 185 note 1).

83 Jenkins, *op. cit.*, pp. 190-191.

Itchen River a few miles distant from Southampton.[84] In 1685, French workmen from Casteljaloux, Thiers, Ambert, and Angouleme established a mill in London.[85] In 1713-14, Henri de Portal, a member of a refugee family trained at South Stoneham, assisted by French workmen, began papermaking at Bare Mill, Whitchurch, in the northern part of Hampshire, and in 1718 extended his interests to another mill at nearby Laverstoke.[86] In 1720 or thereabouts, "a foreigner" made paper for a short time at Clatford on the Isle of Wight.[87] In the nineteenth century two other Frenchmen, Louis Robert and William Foundrinier, introduced new devices in English papermaking: the former at Boxmoor, Hertfordshire in 1804[88] and the latter at St Neots and Thatcham in 1804 and 1805 respectively[89] (map, Fig. 4).

In the meantime English initiative had been far from inactive. In or about 1610 a mill at East Hagbourne, Berkshire, belonged to the Slade family[90] (map, Fig. 4). In 1658, paper mills said to have been in existence in Eashing in ca. 1615, were taken over by operatives from Wraysbury, Buckinghamshire.[91] In 1635, a Bristol merchant, Mr Wild, erected a paper mill in Longdeane, Wiltshire.[92] In 1636, a group of mills in Middlesex and Buckinghamshire (at Poyle, Hounslow, Colnbrook, Horton, and High Wycombe) were owned by William Bushee, Henry Harris, or Edward Phipps. In 1648, a paper mill in Perry Barr, Warwickshire, was established by a local family named Wyrly.[93] The Wolvercote mill in Oxfordshire was established in 1666 by George Edwards and Dr Fell.[94] In 1670,

84 Jenkins, *op. cit.*, pp. 181-182. Huguenots settled in considerable numbers in Somerset, existing records telling of French colonies at Bristol and at Glastonbury. There is also some indication of Huguenot influence around the Mendips. Though at present no direct evidence is available to show that they engaged in the paper industry of the county, some of them in all probability did so (W. W. Jervis and S. J. Jones, *Papermaking Industry in Somerset*, Geography, vol. 15, London, 1929-30, p. 625).

85 Overend, *op. cit.*, p. 204.

86 Jenkins, *op. cit.*, pp. 181-182.

87 *Victoria County History, Hampshire: Vol. V*, p. 490.

88 *Victoria County History, Hertfordshire: Vol. IV* (London, 1902-14), p. 257.

89 *Victoria County History, Huntingdonshire: Vol. II* (London, 1926-36), pp. 96, 341; *Victoria County History, Berkshire: Vol. I* (London, 1906-24), p. 382.

90 *Victoria County History, Berkshire: Vol. I*, p. 382.

91 *Victoria County History, Surrey: Vol. II*, pp. 246, 418.

92 Jenkins, *op. cit.*, p. 169.

93 W. H. B. Court, *The Rise of the Midland Industries, 1600-1838* (London, 1938), p. 113.

94 Jenkins, *op. cit.*, p. 170.

the first paper mill in Lancashire was owned by Thomas Compton, members of whose family later erected many other mills in the county, notably in Mancester (1714), Little Lever (1739), and Botham (1788).[95] In 1675, Eustace Burneby's mill was in existence in Stanwell, Middlesex; in 1679, Thomas Cate held two mills in Stoke, Surrey;[96] and in 1682, George Hagar owned a mill in Eynsham (Ensham), Oxfordshire[97] (Fig. 4). As indicated by available historical evidence, papermaking enterprise continued in the eighteenth century at an accelerated rate. Over one hundred new communities became the sites of mills, and among the known founders six were aliens and eighteen were Englishmen.

With the dispersion of papermaking related even in part to foreign initiative it becomes desirable to examine the relevant events antecedent to transmission, both in Europe and Britain, even though the scantiness of historical data renders this task much less rewarding than for glass. While it is known, for example, that the Tudors made every effort to encourage the establishment of new crafts by granting special privileges to enterprising men, and that foreigners were among those who responded, there is nothing to indicate why Spilman, as a German, left his homeland to become Britain's first successful papermaker. And the same is true for all other foreign papermakers, with the exceptions of Dennis Mannes and Henri de Portal. Mannes, briefly reported to have "kept a manufacture of paper in France," was forced to leave it because of his religion.[98] While Henri de Portal is known to have been a younger member of a family in Languedoc who shipped from Bordeaux concealed in a wine cask to escape persecution. After arriving in England, Henri set himself to acquire a knowledge of the art of papermaking at the South Stoneham mill, near Southampton, where several of his Huguenot fellow-countrymen were similarly occupied. In 1713-18, he established his own mills in Whitchurch and Laverstoke, Hampshire, bringing with him Huguenot workmen.[99]

Unfortunately, history is equally silent concerning the immediate events antecedent to the establishment of paper mills by Englishmen such as Tate, Gresham, Wild, Bushee, Harris, Phipps, Wyrley,

95 *Victoria County History, Lancashire: Vol. II* (London, 1906-14), p. 407.
96 Jenkins, *op. cit.*, pp. 170-171.
97 Overend, *op. cit.*, pp. 196-198.
98 Jenkins, *op. cit.*, pp. 190-191.
99 *Idem*, pp. 180-182.

and Compton. It is to be surmised that they were encouraged to become papermakers by government interest in expanding industrial initiative, but local historians and biographers fail to account for their individual enterprise.[100]

COMMON FEATURES IN THE HISTORY OF GLASSMAKING AND PAPERMAKING IN ENGLAND

Despite these difficulties which prevent a complete analysis of the record of papermaking in England, a comparison of the histories of the two traits reveals many common and suggestive features. It appears that acculturation proceded for both traits in a sequence of three phases: (1) exposure, (2) establishment, and (3) dissemination; and that each phase in turn presents similar events and circumstances.

1 Exposure

Both glass and papermaking were absorbed into the culture of British communities from a common source, the continent, and after prolonged exposure to European craftsmanship and its products. The length of exposure was obviously different for the two traits. Nevertheless, it is to be measured in each case by centuries rather than decades or generations; and was marked towards its termination by similar unavailing attempts to naturalize the two techniques, probably on the part of native innovators.

Since the use, if not the fabrication, of glass was introduced into Britain by the Romans, glass objects were known to Englishmen during the whole of the Christian era prior to the thirteenth century. The inhabitants of the island may be said to have been exposed to the continental trait for upwards of nine hundred years. But it was all of three centuries following the departure of the Roman garrisons before a few churchmen began to employ continental craftsmen to glaze the windows of churches; and six centuries more before the ultimate establishment of glassmaking in Chiddingfold. In the

100 In addition to titles cited in the preceding footnotes see: A. H. Shorter, *The Papermaking Industry near Barnstaple* (Devon and Cornwall Notes and Queries, vol. 20, Exeter, 1938-39); W. H. Summers, *Early Paper Mills in Buckinghamshire* (Records of Buckinghamshire, vol. 7, pp. 202-214, Aylesbury, 1897); R. Wallace, *The Papermaking Industry of the Pennines* (Geographical Journal, vol. 86, pp. 349-356, 1935); J. Somervell, *Waterpower and Industries in Westmorland* (Transactions, Newcomen Society for the Study of the History of Engineering and Technology, vol. 18, London, 1937-38).

meantime, during the thirteenth century, the century of the Chiddingfold success, several short-lived and abortive furnaces have been reported in various British communities which were possibly constructed and operated by Englishmen.

British exposure to papermaking, on the other hand, could have occupied little more than three hundred years, beginning with the introduction of the craft into Spain in the middle of the twelfth century. During that period of exposure, however, as was also true in the case of glass, the continental product was imported for use, and native Englishmen at Hertford, Fen Ditton, and Osterly are recorded as having made similar ineffectual attempts to introduce its fabrication into the homeland.

It is of some significance that the history of papermaking during the period of exposure has been described as a record of wasted effort and disappointed hopes.[101] Native carriers were obstructed in their efforts to implant the craft by the relative cheapness of parchment in a wool-producing country and a prejudice in favor of the more durable material for the recording of public documents.[102] Similar obstacles also undoubtedly inhibited native initiative in glassmaking. Little glass was imported owing to its fragility. Its use was known only to royalty or the wealthiest persons, and its manufacture demanded special skill in order to meet a luxury market.[103]

2 Establishment

The second phase of acculturation, the establishment of the two traits in England, was of much shorter duration and characterized by three common features: a single successful implantation, the initiative of a foreign carrier, and the choice in England of the same geographical region for trait implantation.

The first long-lived transmission of glassmaking into a British community was made in the Chiddingfold area in 1225-26 by Laurence of Normandy. He was followed to the district by a succession of other French craftsmen; and although concurrent efforts were made by natives to introduce the trade elsewhere in the realm, Chid-

101 Jenkins, *op. cit.*, p. 155

102 Overend, *op. cit.*, p. 178. Parchment sellers were common during the reign of Elizabeth (*Victoria County History, Oxfordshire: Vol. II*, London, 1907-39, p. 226).

103 T. Hudson Turner, *Some Account of Domestic Architecture in England from the Conquest to the End of the 13th Century* (Oxford and London, 1876), pp. 73-74.

dingfold remained for three centuries the only persistent and apparently successful implantation. Similarly in papermaking, the first lasting and successful transmission was made by John Spilman, a German, who with foreign workmen began operations in 1588 in Dartford, Kent, where paper continued to be made until 1739 or for over one hundred and fifty years.

It is also to be noted that while the first ephemeral glass furnaces were scattered in various parts of England, and the first disappointing ventures in papermaking appeared in counties north of the Thames, success came to those two alien carriers of both traits who attempted transmission in communities in southeastern England, south of the Thames, and in counties fronting on the channel and the continent (maps, Figs. 1 and 3).

3 Dissemination

During the third phase of acculturation, or the period of the dispersion, comparison of the histories of glass and papermaking elicits many other common features. It will be observed, to mention only the more important, (a) that the dissemination of the two traits to new sites was both sudden and rapid; (b) that recipient communities usually lay in close proximity to one another, ultimately forming regional concentrations of each trait; (c) that the two traits, at least in the earlier years of their dispersion, were carried by relatively few donors, many of those recorded being of foreign origin, and members of a few families, alien or native; (d) that alien carriers, whether glass or papermakers, emigrated from the continent for similar reasons; (e) that efforts of carriers, both foreign and native, to transmit the traits were met with local resistance; and (f) that sites for the implantation of the two traits were chosen on the basis of similar geographical and cultural criteria.

(a) Once established in southeastern England, the crafts of both glass and papermaking eventually experienced a wide and rapid acceptance, beginning respectively in the sixteenth and seventeenth centuries. For three hundred years, from 1200 to 1499, there was only one glassmaking community in all England (the Chiddingfold district) which left a record of persistence and permanence. But during the subsequent three centuries the innovation was accepted by 70 additional communities (Table 1), of which 16 appeared in

the sixteenth century,[104] 30 in the seventeenth, and 24 in the eighteenth. Similarly, although there were no successful papermaking communities in England prior to the last two decades of the sixteenth century, 4 had accepted the trait from 1580 to 1599, 28 from 1600 to 1699, 54 from 1700-1799, and 51 from 1800-1899.[105]

(b) Both glass and papermaking, which found successful first establishment in the adjoining counties of Surrey, Sussex, and Kent, were disseminated from there to certain new villages and towns in other parts of England, near which in turn, other communities came to accept the new traits (maps, Figs. 1 and 3). Or putting the matter in another way, dissemination was not geographically diffuse but selective. Later carriers were attracted to new communities in which, or near which, earlier carriers had settled.

Among the sites in which foreign glassmakers first found a foothold, subsequent to the Chiddingfold establishment, were London in 1549, Newent in 1580, Woolstanton in 1586, Houghton in 1605, Stourbridge in 1612, and Newcastle-on-Tyne in 1617. In latter years glasshouses multiplied in these towns,[106] and were established in nearby villages. The map, Figure 2, exhibits these clusters of glassmaking communities; while the same regional concentration of papermaking is to be observed in the map of Figure 4.

(c) In the dispersion of the two traits a common leaven of foreign initiative flowing along family lines is plainly discernible, although its importance is greater in glassmaking than in papermak-

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104 According to reports of contemporary estimates (which are incomparable with the above figures, since they refer to the number of glasshouses rather than the number of glassmaking communities) there were 11 glasshouses in Chiddingfold in 1584 and 15 in England in 1589 (Winbolt, *op. cit.*, p. 23). A century later in 1696 there were ninety glasshouses in England (John Houghton, *Husbandry and Trade Improv'd* (London, 1727-28, vol. 2, p. 48).

105 According to the contemporary estimates (which are incomparable to the above figures since they refer to the number of paper mills rather than the number of papermaking communities), there were 278 mills in England and Wales in 1739 (Jenkins, *op. cit.*, p. 185). In 1636 there were 12 mills in the county of Buckingham and 4 in the neighborhood of Hounslow and Colbrook; in 1690 there were 8 in High Wycombe (*Victoria County History, Buckinghamshire: Vol. II*, London, 1905-27, p. 3). Many communities possessed more than one mill.

106 In 1696 the first census of glasshouses indicated that there were 9 in and about Bristol, 24 in and about Lond[illegible]n, 17 in Stourbridge and 11 in Newcastle-on-Tyne (Houghton, *op. cit.*, pp. 11, 48).

ing, and more marked in the early years of dissemination than in the later. The spread of glassmaking was definitely effected by members of a few Huguenot families,[107] together with other aliens, and is directionally well defined (map B, Fig. 2). These families, as trait carriers, moved west and north from Chiddingfold, and their paths of migration are studded with groups of glassmaking communities. Similarly the members of an Italian family, Dagnia by name, first mentioned as glassmakers in Knole, Kent, in 1585,[108] were among the founders of the craft on the Tyne a century later.[109] The total number of communities into which glassmaking was introduced in the course of 600 years was seventy-five. Of these, the transmission in 23 cases (or 30 percent of the total) is known to have been made by foreign families or other aliens, and in 35 cases (or 45 percent of the total) was associated with foreign names. The peak of alien glassmaking initiative was reached in the sixteenth century, the century of the Huguenot family migration, when 13 out of 16 furnace sites were associated with foreign names; and had declined to 5 out of 24 in the eighteenth century (Table 1) when English names were appearing in greater numbers.

Alien initiative in the dissemination of papermaking was probably somewhat less the rule. That is to say, foreign ventures in the establishment of paper mills was restricted geographically to southeastern England in the counties of Kent, Middlesex, Hampshire, and Hertford[110] (map, Fig. 4) where 10 communities out of 41 (whose founders are known) were foreign and 31 were English (Table 2). Nonetheless, the tendency of carriers to bequeath their interest in papermaking to sons or kinsmen is again apparent. Foreign family initiative was exhibited in at least one county; and members of English families for several generations carried the trait to various parts of the realm. The refugee de Portal family, associated with the

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107 The importance of the family as a disseminating unit may have been due, among aliens, to laws preventing them from employing more than two journeymen and four apprentices (Irene Scouloudi, *Alien Immigration into and Alien Communities in London, 1558-1640*, Proceedings, Huguenot Society of London, vol. 16, 1938, pp. 35-36).

108 *Victoria County History, Kent: Vol. II*, p. 401.

109 Buckley, *Glasshouses on the Tyne in the 18th Century*, p. 27.

110 With the exception of the Plymouth mill established by the French Huguenot, Mannes.

founders of the South Stoneham mill in Hampshire, also founded that in Whitechurch and Laverstone.[111] The Farnsworth mill in Lancashire, said to have been established by a Compton in 1674 was followed by others in Manchester, Collyhurst, Little and Great Lever, and Botham, all belonging to members of the same family.[112] While the Venables of Cookham, Berkshire, were papermakers for four generations.[113]

(d) The alien carriers who contributed to the dissemination of the two traits in the sixteenth and seventeenth centuries are said to have left the continent for two reasons, one of which was religious and therefore applicable only to Huguenots; the other economic and effective among all émigres whether French, German, Dutch, or Italian.

The religious motive certainly animated the papermaking de Portal family from Languedoc and Dennis Mannes who established a mill at Plymouth. A similar incentive was probably operative, at least in part, among all Huguenot refugees, including the glassmaking families from the Duchy of Lorraine, although that province was less affected by the religious wars and massacres ravaging other parts of France.[114] But there is no doubt that economic incentives were mingled with the religious. Conditions on the continent were discouraging to enterprise while those in England offered reassurance. Impressed by such facts, some commentators assert that the Lorrainers emigrated to England because a depression, due to over-production of glass and increased state regulation, had closed down their furnaces.[115] Others point to the high rate of increase among glassmaking families which left little scope for younger sons to enter their fathers' works.[116] Among continental papermakers economic conditions were also unfavorable. After the Revocation of the Edict of Nantes, the mills of Angoumois were reduced from sixty to sixteen by the departure of masters and their workmen, "who followed them, some out of religious sympathy, others because they

111 Jenkins, *op. cit.*, p. 181.
112 *Victoria County History, Lancashire: Vol. II*, p. 407.
113 *Victoria County History, Berkshire: Vol. I*, p. 382.
114 E. G. Clark, *Glassmaking in Lorraine* (Journal, Society of Glass Technology, vol. 15, 1931, p. 113).
115 Pape, *op. cit.*, p. 85.
116 Clark, *op. cit.*, p. 113.

found it to their interest to do so."[117] In the meantime, the government of England was fully alive to the need for fostering the industrial future of the realm and offered monopolistic advantages to enterprising persons who would undertake new ventures. Foreign artisans were rapidly absorbed into the industrial system. The Revocation was signed in the last week of 1685. By the beginning of the second week of December following, foreign paper men had "already set up several newly invented mills and engines . . . not heretofore used in England."[118] As a matter of fact, it would appear from a study of alien immigration to London during the period, that more than half of the emigrants crossed the channel for economic reasons.[119]

(e) In spite of government patronage, however, the carriers of the two new traits, whether foreign or native-born, met similar resistance from the inhabitants of communities in which they set up their furnaces and mills. Huguenot glass men had no sooner set foot in Chiddingfold and begun operations than they became the objects of complaint. The Wealden iron forgers charged them with depleting the woods for fuel. A plot was hatched at Petworth in 1574 to rob and burn their houses; and in the time of Elizabeth eleven glasshouses in Chiddingfold are said to have been suppressed and their owners put to flight.[120] When they moved to Buckholt, Warwickshire, and Eccleshall the story was the same.[121] Other foreign glassmakers received similar treatment. The inhabitants of Unstead Farm, near Guilford, complained in 1586 that an Italian, probably Verselini, was consuming the woods to the detriment of the public interest.[122] In 1581, at Northiam in Sussex a similar protest was made.[123] In 1615, a proclamation prohibiting the use of wood for fuel forced a shift in glassmaking from the old sites in the Weald to the London suburbs.[124] Similarly, local resistance against the introduction of papermaking began in the early years of the seventeenth century when Spilman was accused of undermining the discipline of

117 Overend, *op. cit.*, p. 200.
118 *Idem*, p. 201.
119 Scouloudi, *op. cit.*, p. 34.
120 Winbolt, *op. cit.*, pp. 18, 23.
121 Pape, *op. cit.*, pp. 114-117.
122 *Victoria County History, Surrey: Vol. II*, p. 298.
123 *Victoria County History, Sussex: Vol. IV*, p. 255.
124 *Victoria County History, Surrey: Vol. II*, p. 299.

the city of London by authorizing vagrant poor to collect rags from door to door. In 1636-37, at the time of the visitation of the plague, the same protests were renewed.[125] In Colnbrook, Horton, Poyle, and Hounslow citizens demanded the removal of the mills;[126] and in Buckinghamshire twelve were closed ostensibly to avoid ragborne contagion.[127] Mill owners were charged with flooding the country side, killing the fish, poisoning the air, and producing unusable paper.[128]

That many of these allegations were rationalizations of a primitive and deep-seated distrust of the foreigner is suggested by an act drafted in Kent in 1584 prohibiting the making of glass by "strangers" and "outlandish men";[129] ill-concealed resentment against Huguenot "gentlemen" glassmakers who were accused of giving themselves airs;[130] and the harsh treatment meted out to Netherlanders who were regarded as spies in 1588, the year of the Armada.[131] These complaints also indicate, however, that the innovator was not welcomed by many communities which preferred to maintain their ancient ways undisturbed by the intrusion of new techniques. During the period of the establishment of glassmaking in the thirteenth century, when only a few foreigners followed their trade in one town or district, there is no evidence of friction. But three hundred years later, when a larger number of innovating aliens and natives sought to disseminate the two traits opposition was outspoken. They were feared by the trade guilds which opposed the entrance of foreigners into old English crafts; and, it may have been this resistence which compelled many foreigners to turn to new ones.[132] The glass men were charged with family clannishness and an unwillingness to reveal the secrets of their trade, a fact which may account for their settlement in hamlets remote from habitation and for the long but unavailing British effort to secure effective teachers from the continent.[133] Local authorities attacked the paper men, whether native or foreign, in no uncertain terms, charging them with attracting a

125 Jenkins, *op. cit.*, pp. 164, 168.
126 *Victoria County History, Middlesex: Vol. II*, p. 196.
127 *Victoria County History, Buckinghamshire: Vol. II*, p. 111.
128 Jenkins, *op. cit.*, p. 168.
129 *Victoria County History, Kent: Vol. III*, p. 401.
130 Winbolt, *op. cit.*, p. 17.
131 Overend, *op. cit.*, p. 186.
132 Overend, *op. cit.*, p. 177.
133 Winbolt, *op. cit.*, pp. 60-61.

surplus of workers to their mills, creating unemployment, and refusing to assist in its relief.[134] Indeed, the internal migration of carriers was so much the product of local opposition, and the spread of the two traits was so closely associated with internal migration, as to suggest that dissemination might not have taken place at all, or on a very different scale, had local resistance been absent.

(f) The dissemination of culture is not due to some mysterious power of mobility and attachment inherent in its elements. Glass- and papermaking, like other traits, were skills possessed by individuals who sought to introduce them into new surroundings. But why did they go in England where they did? What criteria were observed by donors in choosing new communities for the implantation of new traits? Considering the opposition displayed by inhabitants to innovations, what led to their ultimate acceptance?

Comparing the histories of the dispersion of glass and paper, it becomes apparent that donors chose sites upon which to practise their arts with both geographical and cultural criteria in mind; and that local inhabitants gave readier consent to their intrusion where technological change had already become relatively familiar or where the new art was supported by a tradition of its former practice.

In the early days, the materials required for the fabrication of glass included silicate, usually extracted from sand, potash from bracken, clay for crucibles, brick or stone for furnaces, and wood (or later coal) for fuel. Paper, on the other hand, required an adequate supply of linen or cotton rags and water-power to convert it into pulp. Although it was possible to import some of these necessary materials from other localities, communities which could offer all or most of these were naturally favored by carriers. Forests, however, could not be brought to glass furnaces, nor streams to paper mills. The glass men were therefore restricted geographically in their choice of communities to wooded areas, and the paper men to sites on the banks of rivers. But England is a well-streamed country and in the seventeenth century was still well-wooded. There were many rivers upon which paper mills were not established, and many forests without a glass furnace. Compelled to select sites possessing these geographical advantages, the donors of paper and glassmaking were

134 Overend, *op. cit.*, pp. 209-210.

nevertheless obliged to choose among them. Their criteria of choice appear to have been cultural. Donors of glassmaking entered forested communities in which a tradition of earlier glass fabrication had probably been preserved; carriers of papermaking settled in river-side villages which had been the scene of some earlier and related technological innovation.

Glass furnaces from the sixteenth century onward were introduced on or near the sites of Roman and medieval furnaces, as indicated by map A, Figure 1. It has been suggested that Laurence chose Chiddingfold as a site in the thirteenth century because of a slightly earlier glassmaking tradition in the region, possibly in Hambledon.[135] Here he was followed by Huguenot craftsmen who moved to Buckholt,[136] in Wiltshire and Eccleshall, in Staffordshire, where again earlier glassmakers had preceded them. The preservation of a glassmaking tradition attached to these communities commended them as sites to trait bearers, and to recipients made the new craft more acceptable.

Papermakers, on the other hand, are repeatedly reported to have leased water mills, a decision which took them into communities whose inhabitants had already absorbed important technical innovations. Those which possessed corn-mills[137] had made at least one transition from hand-power to water-power; while the presence of a fulling mill[138] implied still more cultural elasticity, since to the use of water-power for grinding flour had been added its use for preparing cloth. Furthermore, there was a similarity between the operation of fulling cloth and preparing paper pulp. "The hammers thump and make as loud a noyse," complained a poet, "As fuller doth that beats his woollen cloth."[139] Carriers of papermaking were not attracted to communities where parchment, a like product, was made but to those where a similar technique was available.

The influence of cultural criteria is also to be inferred from the fact that French glass men chose communities in which they could

135 Winbolt, *op. cit.*, p. 6.

136 *Victoria County History, Hampshire: Vol. V*, p. 491.

137 At Osterly, Dartford, South Stoneham, Whistley, Colethorpe, Laverstoke, Hertford, St Neots, Cheritan, Creech, St Michael, Elford, Eashing, and Albury.

138 At Boxley and Catteshall.

139 Jenkins, *op. cit.*, p. 166.

enjoy the companionship of co-patriots and co-religionists;[140] while papermakers located their mills near the earliest printing presses and in the vicinity of the two Universities. From 1610 to 1694 mills were established in no less than four villages[141] near the Oxford and Abingdon presses, which were operating in 1468-78 and 1538 respectively. Again near London, where Caxton's Westminster press was set up in 1476-77, a group of mills was established between 1556 and 1688.[142] And the same is only a little less true for the presses of St Albans and Cambridge.[143] Sites near Universities offered an obvious attraction. As one contemporary observed, "it seemeth to me a proper conjunction that seeing Cambridge yieldeth so many good writers, Cambridgeshire should afford paper unto them."[144]

A comparison of the histories of the introduction and dissemination of two technological traits in a single historical area thus not only elicits a promising number of historical parallels, it fortifies conclusions derived from other types of acculturation inquiry. It is suggested again that diffusion is not an automatic process, flowing spontaneously from the contact of two cultures and pursuing its own way in separation from human donors and recipients. Traits are transmitted by a relatively few carriers; they travel outward in similar directions meeting similar obstacles; and they receive acceptance only under certain conditions after prolonged exposure. Historical comparison affirms the inertia of the receiving culture in which individuals are cloaked with anonymity. It emphasizes the active role of individual innovators and alien donors, whose names are remembered and whose deeds are chronicled.

When however the comparison of dated evidence leads thus to statements implying a common course of acculturation, caution is in order. In the first place, an inquiry involving only two traits can never be conclusive. At best, it calls attention to a field of profitable investigation. Moreover, there is no reason to assume that the

140 Powell, *op. cit.*, p. 21.

141 East Hagbourne, Wolverton, Ensham, and Sandford.

142 In Osterley, London, Poyle, Hounslow, Colnbrook, Horton, High Wycombe, Stanwell, and Wraysbury.

143 W. H. Allnutt, *English Provincial Presses* (Bibliographica, vol. 2, London, 1896, pp. 23-46, 150-60).

144 Jenkins, *op. cit.*, pp. 159-160.

historical diffusion of all culture elements has followed the pattern described, either in England or elsewhere. The fact that historical similarities have been elicited from a random choice of two traits, merely suggests, though it suggests strongly, that the historical investigation of a larger group of elements on many areas would be rewarding. In the second place, the results were obtained by resorting to questions found fruitful in dealing with the problem of acculturation among pre-literate peoples under limited historical control. That these exhaust the field of interrogation among historical cultures is hardly to be maintained. The questions a science puts, and the concepts employed in them, are a measure of its development. Only repeated exploration in the classification and arrangement of dated materials relevant to acculturation can suggest additional questions, the formulation of new concepts, and the refinement of old ones. Fortunately, there is no dearth of material for such an undertaking, and the task of bringing it into order is no greater than that which has confronted students of processes in the natural world of botany, zoology, and geology. What distinguishes the scientific attitude from its opposite is not the absence of effort to get results, but willingness to recognize when they cannot be obtained by one method and readiness to try others.

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A COMPARISON OF NAVAHO AND WHITE MOUNTAIN APACHE CEREMONIAL FORMS AND CATEGORIES

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IN THE BEGINNING it should be stated that this paper does not pretend to be a complete and final analysis of the subject, and no attempt is made to correlate ritual of all the Apache divisions with that of the Navaho. This would be well nigh impossible in such a short space, as there are striking differences between the various Apache divisions themselves. Allusions to "Apache" in the following pages refer only to the White Mountain Apache of east central Arizona, the most easterly of the five Western Apache groups, who have been chosen for this comparison because they are better known to the author than the others. Moreover, with the possible exception of the Jicarilla Apache, the White Mountain Apache, as members of the Western Apache who collectively have certain close parallels to the Navaho in the form of matrilineal clan organization and the practice of agriculture, might be expected to offer a more favorable basis for comparison.

Among the rich ethnological harvests from the Southwest, there has long been an over-generous portion of Navaho ceremonialism, and literature on the subject has become terminologically complex. This becomes very evident when any attempt is made to compare Navaho and Apache religion and ritual. One first has to peel back a whole layer of peculiar and established Navaho ritual terminology with its "chanters," "chantways," "ketawns," "dark circles of branches," etc. On the other hand Apache ritual has not enjoyed the same publicity and on first examination appears too simple to afford any fruitful comparison with the Navaho.

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1 At the request of Mrs Grenville Goodwin, the manuscript of this paper was edited for publication by Clyde Kluckhohn and Leland C. Wyman. The paper was originally prepared for oral presentation to the American Association for the Advancement of Science, Southwestern Section, meeting at Tucson, Arizona, in 1940. Because of Mr Goodwin's death shortly after that time, he was unable to revise it for publication. The editors have made few changes, except to condense certain parts which they felt sure were designed by Mr Goodwin for oral rather than for printed presentation, and to add the footnotes.

More recent Southwestern studies begin to make it apparent that there is not such a wide gulf between Navaho and Apache basic cultures as has been thought.[2] It is not the object of this paper to discuss the causes of the differentiation that exist, but merely to determine by a short examination what obvious parallels there may be in the case of the White Mountain Apache and, if possible, to delineate the extent of the gaps that may exist. The conclusions arrived at are not to be taken as certainties, but merely as interesting parallels which I hope may invite and stimulate a closer scrutiny of the question and perhaps permit avoidance of a terminology which may falsely differentiate or obscure similarities between Navaho and Apache.

The Navaho material utilized in this paper comes almost solely from two recent publications: one by Dr Wyman and Dr Kluckhohn, the other by Father Berard Haile of St Michaels.[3] It should also be stated here that all these writers have been especially interested in native Navaho ceremonial categories. My own work among the Apache probably did not equally accentuate this aspect of Apache ritual though I believe the field work done was intense enough to make an adequate comparison possible.

NATIVE GROUPING OF CEREMONIALS ACCORDING TO THEIR FUNCTION AND ORIGIN

Navaho: Wyman and Kluckhohn divide the bulk of Navaho ceremonials into four groups, each with its ritual pattern according to which the ceremonials belonging in it must be carried out. These groups are: *Blessingway,* used mainly for blessing and bringing good luck, long life, etc., but not for curing; *Holyway,* used for cures or preventatives; *Lifeway,* used for bodily injury; *Evilway,* used for molestation by ghosts. War and hunting ceremonials they class in two additional groups because of lack of identifying information, though the first they think might come from *Evilway* and the second under *Holyway* or *Blessingway.* Certain Navaho ceremonials may

2 Cf. M. E. Opler, *The Character and Derivation of the Jicarilla Holiness Rite* (Bulletin, University of New Mexico, Anthropological Series, vol. 4, no. 3, 1943).

3 L. C. Wyman and C. Kluckhohn, *Navaho Classification of Their Song Ceremonials* (Memoirs, American Anthropological Association, no. 50, 1938); B. Haile, *Navaho Chantways and Ceremonials* (American Anthropologist, vol. 40, pp. 639-652, 1938).

be carried out under more than one ritual pattern.[4] Those carried out under the Holyway ritual pattern may be of two types (sub-rituals): *Fighting-way* (*Weapon-way, Injury-way*) or *Angry-way*, and *Peaceful-way*, depending on the reason they are given. The first is to cure some sickness or injury caused by supernatural forces; the second is to set aright any former evil or misfortune and to ward off trouble in the future. Some Navaho ceremonials have a male and a female branch which are considered entirely separate ceremonials. A common practice is to designate ceremonials by the etiological factors against which they are given at the time, without naming the ceremonial itself.

Father Berard divides Navaho ceremonials into two types: *Blessingway* and *Enemyway* rites (war and hunting rites probably borrowed their songs from these two sources); and *chantways*, those ceremonials accompanied by the use of the rattle. *Holyway, Ghostway* (*Evilway*), and *Lifeway* ritual patterns exist according to which various of the *chantways* may be carried out.

Apache: Native classifications of ceremonials are lacking, and a given ceremonial may be carried out under only one ritual pattern, that peculiar to itself. However, the gojosi'[5] and the war rites are set apart from the other ceremonials in that they are considered the oldest and were not acquired through some individual's legendary supernatural experience — the usual explanation for other rites. Moreover, they are not used for curing. Again, although there is no

4 Shootingway and Hand-Trembling-way may be performed according to Holyway, Lifeway, or Evilway ritual; and Red Antway and Big Starway according to Holyway and Evilway. Wyman and Kluckhohn listed these as separate ceremonials when conducted according to different rituals, each under the main group for the ritual concerned, but Father Berard prefers not to list them as distinct ceremonials. Although informants are inclined to give them separately when asked to name chants, it might save confusion when listing ceremonials to designate by notations in parentheses the fundamental chantways in the Holyway group which may be conducted according to other rituals, and to inclose their names in parentheses in the other ritual groups to indicate that they are not entirely independent ceremonials. Wyman and Kluckhohn agree that the Shootingways in the Life- and Evilway groups are—from the point of view of procedures and content—ritual variants of a single basic chant. Perhaps the basic difficulty would be solved by English renderings such as "Shootingway, Male Lifeway Branch" rather than "Lifeway, Male Shooting Branch."

5 Mr Goodwin elsewhere speaks of the "gojo·jinde· (holy ceremonies)": cf. Grenville Goodwin, *White Mountain Apache Religion* (American Anthropologist, vol. 40, pp. 24-37, 1938), p. 30.

Apache *Ghostway,* ceremonials may be carried out for the dispelling of ghosts; ghost power and lightning power both being used for this purpose. A definite difference may be found between versions of the same ceremonial as practised by various shamans, due either to varying supernatural experiences or to local differentiation. Thus all performances of the Water Ceremony are spoken of as being of one kind, the only difference noted being that the Water Ceremony of one man may differ slightly from that of another.

No terminological differences indicating distinctions like the Navaho sub-rituals were recorded, and the trait of designating a ceremonial in progress or already given by its etiological factor is absent among the Apache. Certain ceremonials may be given either as cures or to set things aright and ward off possible evils, such as ga·n, lightning, snake, water, star, and possibly other rites. The Apache clearly distinguishes between the two reasons for giving a ceremonial, but I recorded no native standard terminological designations used consistently, and the etiological factor or objective of a ceremonial must be enquired for. Moreover, differentiation of ceremonials into male and female is entirely lacking.

CEREMONIAL SEGMENTS

Blessing and Misfortune Parts of Ceremonials

Navaho: Most Navaho ceremonials have a *Blessing Part* and a *Misfortune Part.* The latter is not to be confused with *Ghostway.* These are nothing but song groups in the ceremony itself, and not separate rituals, though the *Blessing Part* songs may be borrowed from *Blessingway.* The *Misfortune Part* merely recounts the misfortunes which await the patient if not cured or protected; the *Blessing Part* sets everything aright for the patient and also corrects any mistakes the singer may have made in the ceremonial.

Apache: The *Blessing Part* is lacking. A shaman should not make mistakes in a ceremonial, but if he does he covers them up by praying afterwards.[6] This covering up is not automatic, so far as I know. Nothing like a *Misfortune Part* to ceremonials was recorded, though it may exist.

6 This is also Navaho practice—as well as the use of the *Blessing Part.*

Phases of Chantways

Navaho: In many, though not all, of the Navaho chantways which can be given according to the *Holyway* ritual pattern, there are a number of phases which can be included or omitted according to the wishes of the people paying for the ceremony or those of the singer. At least one of the phases "sand paintings," "cut stick offerings," "chant with jewels," "chant with Sun's house," "dark circle of branches," masked impersonators, etc., must be included in any *Holyway* ceremonial. Each phase is designated by a distinct term and it is often customary to designate the ceremonial in progress by the dominant phase occurring in it, without bothering to name the ceremonial itself; for instance, yebitcai and "dark circle of branches."

Apache: The Apache have something similar though much modified. Thus certain complicated ceremonies may be given completely or with parts omitted, such as the sand painting or the appearance of masked dancers. This depends mainly on the wishes of the shaman, the sum he is paid, and to a less extent on the wishes of the family paying for the ceremonial.[7] At the same time distinct phases of a ceremony in progress are referred to, rather than the name of the ceremony itself, if one individual is telling another what is going on. Thus, ga·n dance, nik'egotci (sand painting), na'il'es, etc. However, these phase designations are usually unmistakably linked with a certain ceremony, the only one in which they occur, except for a few which occur in several different ceremonials (such as the first two).

Sand Paintings

Navaho: There are supposedly from four hundred to five hundred Navaho sand paintings in existence, about three hundred of which have been recorded. Certain of these are the common property of various ceremonies. Among them are "prayer paintings," small sand paintings which may be made for a very short ritual, independent of a large ceremonial. A Navaho singer may know many more paintings for a ceremonial than he could possibly use during its performance.

7 The parallel seems closer to "excerpt" than to "phase:" cf. Clyde Kluckhohn and Leland C. Wyman, *An Introduction to Navaho Chant Practice* (Memoirs, American Anthropological Association, no. 53, 1940), p. 107. Mr. Goodwin had not seen this monograph.

Apache: There are only some six ceremonials which have any sort of sand paintings in them, and in each there is ordinarily no more than one painting known to the shaman. Prayer paintings are apparently absent and the only parallels to them are the holy painted charms on wood and buckskin[8] which may be made as a prayer for an individual.

Ceremonial Paraphernalia

Navaho: The Navaho seem to keep many ceremonial objects on hand: complicated medicine bags containing all necessaries, masks, etc. Only certain objects are made for the occasion.

Apache: Only a few ceremonial objects are kept ready by the shaman, who relies on procuring and making the necessary things at the time of the ceremonial and disposing of them permanently soon after its completion.

NAVAHO AND APACHE CEREMONIALS WHICH MAY BE CLOSELY PARALLEL

In the following list of Navaho and closely related Apache rites and song sequences, the parallels noted are no more than tentative until a real comparative analysis can be made. The numbers and letters used refer to the Groups, Sub-Groups, Ceremonials, and Branches in Wyman and Kluckhohn's list. Omission of any appearing in that list indicates that no Apache parallels were discovered.

Navaho: I Blessingway.

Apache: Instead of having various "ways," the whole is called gojosi'. Within it are various sets of songs. There is a set of Enemy Monster songs, a set of Chief's songs, though to my knowledge there are no Mountain Peak songs or Game songs

Navaho: IIA Shooting Chant Sub-Group.[9]

Apache: They have a Bear Ceremony which goes under only one name and has no recognized or standardized variations.

8 It is perhaps significant that the Navaho make dry paintings on buckskin in connection with supplementary prayer ceremonies (cf. Kluckhohn and Wyman, *op. cit.*, pp. 62, 101).

9 Goodwin *(White Mountain Apache Religion,* p. 30) refers to "lightning ceremonies." The Shooting Chant sub-group are especially concerned with this etiological factor.

Navaho: IIC1 Night Chant.

Apache: There is a night chant which may be given in two forms, the first one being termed Night Way, the second usually alluded to as Ga·n Way.

Navaho: IIC2 Big-God-Way.

Apache: Big God is a masked impersonator who sometimes appears in the Ga·n Way mentioned above, but there is no special ceremonial named after him.

Navaho: IIC4 Dogway.

Apache: There is a ceremonial which obtains its power from dogs, but whether comparable to this or not is uncertain.

Navaho: IIC5 Coyoteway.

Apache: There is an important Coyote Ceremony in which the masked dancers sometimes appeared as they are said to have sometimes done in the Navaho Coyote chant.

Navaho: IID Wind Chant Sub-Group.

Apache: There is a wind rite merely termed Wind Power or Wind Way. Any distinct Windways are absent.

Navaho: IIE1 Hand-Trembling-Way.

Apache: An important divination ceremony.

Navaho: IIF Eagle Trapping Sub-Group.

Apache: There is an important hawk ceremony used in curing hawk sickness, and a separate part used in the plucking of eagles.

Navaho: III Lifeway.

Apache: The Apache have an important ceremony called Medicine Way. This includes several quite distinct song sets: they are Medicine, Life, Flint, Arrow, Cow, and Poison, which are sometimes sung as separate minor ceremonies. They are expressly for the cure of bodily injury, as are those of the *Lifeway* group among the Navaho.

Navaho: IV Evilway (Ghostway).

Apache: There is a special ghost power used against ghosts.

Navaho: IVA1 Moving-Up-Way (Upward-Reaching-Way).

Apache: The Red Ant ceremony is called the Moving-Up-Way, and deals with the mythical emergence. Whether the Apache Red Ant Ceremony should be correlated with this or the Navaho Red Ant ceremonial is uncertain.

Navaho: IVB1 Enemyway.

Apache: There is an Enemy Way which is used as a war ceremony against the enemy.[10]

Navaho: VI Enemy-Monster-Way.

Apache: These are a set of songs used in war ceremony against the enemy. According to Father Berard this is also Navaho.

Navaho: VIA Deer Hunting Sub-Group.

Apache: There are wolf, mountain lion, deer, and ga·n songs used in the one deer hunting ceremony. They all have power for hunting deer. There is a Stalking Way, a separate ritual used for stalking with a deer head or antelope head.

Navaho: VII3 Antelope Hunting Sub-Group.

Apache: A ritual used in corraling antelope, at least mythically.

CEREMONIALS OF THE WHITE MOUNTAIN APACHE NOT MENTIONED FOR THE NAVAHO

1. Lizard rite,[11] for curing lizard sickness.
2. Horse rite,[12] for horse sickness, and for breaking horses.
3. 'Izek'aiye'e,[13] for curing venereal disease.
4. Tco i', for venereal disease or menstrual contamination.[14]
5. Gambling,[15] for winning in card and hoop-and-pole games.
6. Fire,[16] for curing burns, etc.

10 The parallel would therefore seem to V1 Enemy-Monster Way and V2 Monster-Men Way rather than Enemyway (cf. Wyman and Kluckhohn, *op. cit.*, pp. 34-35).

11 This may be related to Hand-Trembling Way for which "Gila Monster sickness" is an etiological factor (cf. Wyman and Kluckhohn, *op. cit.*, p. 28).

12 The Navaho do have songs and prayers used in breaking horses and for sick horses. Blessingway is also used for protecting all types of livestock.

13 The Navaho have methods—not yet described systematically in print—for treating venereal disease. Certain chantways (notably those of the Evilway group) and rites (notably those pertaining to war) are sometimes combined with sweating and administration of specified herbs which are the central features of Navaho treatment of venereal disease.

SUMMARY

We have then the following main items apparently lacking in Western Apache ceremonialism: ritual patterns by which the same ceremony may be carried out in different ways, male and female branches of ceremonies, the blessing part for all ceremonies, frequent designation of a ceremonial by its etiological factor even to the point of reading branch ceremonials into it, great abundance of sand paintings, tremendous stress on standardization, ceremonial paraphernalia kept on hand. The use of ritual patterns, male and female branches, and designation by etiological factors are so strongly imbedded in Navaho ceremonialism that they have become standards of classification and seemingly have caused both the Navaho and ethnologists to think in terms of a multiplicity of ceremonials where actually the basic pattern would appear to be a smaller number of separate ceremonials. This complexity of ritual categories is apparently a peculiarity the Navaho do not share with any of the Apache divisions on which there is sufficient published material, and on the surface this also makes Navaho ceremonialism look far more complex than it actually is. How far this peculiarity has created distinct ceremonies out of variations of a single ancient ceremony is not sure. This complex classification may have fed upon the variations in basic ceremonies, such as are found in the Apache ceremonies; further where the latter people have not bothered to go in for minute classification, the Navaho have. If correct, this hypothesis would eliminate a striking cultural dissimilarity between Apache and Navaho, which otherwise is not easily explained.

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14 Although the Navaho do not have a distinct ceremonial to deal with it, a similar native term and theory concerning the danger of contact with menstrual blood exists. See L. C. Wyman and S. K. Harris, *Navajo Indian Medical Ethnobotany* (University of New Mexico Bulletin, Anthropological Series, vol. 3, no. 5, 1941), p. 59; L. C. Wyman and F. L. Bailey *Navaho Girl's Puberty Rite* (New Mexico Anthropologist, vol. 6-7, pp. 3-12, 1943), pp. 3, 6, 11, 12.

15 Many songs, prayers, and minor rites connected with gambling exist among the Navaho, although they have not yet been described in detail. However, see B. Haile, *Navaho Games of Chance and Taboo* (Primitive Man, vol. 6, pp. 35-41, 1933). Frenzy Witchcraft is also used by gamblers (cf. Clyde Kluckhohn, *Navaho Witchcraft*, Papers, Peabody Museum of Harvard University, vol. 22, no. 2, 1944, pp. 23-24).

16 The Navaho likewise have a ceremony for curing burns (cf. Kluckhohn and Wyman, *op. cit.*, p. 57).

CARIB FOLK-BELIEFS AND CUSTOMS FROM DOMINICA, B. W. I.

DOUGLAS TAYLOR

I INTRODUCTION

IT IS CONVENIENT and often necessary for an investigator to classify his material according to categories, such as "medicine," "magic," "plant-lore," etc., but it must not be forgotten that these and similar abstractions would appear as an unnatural distortion of the facts to the participant in any folk-culture, who rightly recognizes as real only the integral and indivisible phenomenon of his own life within the group to which he belongs. As the scope of this article is limited to selected aspects of belief and custom recorded mainly in a comparatively isolated section of the wildest of the Lesser Antilles, it is indispensable to sketch in rapid outline the physical and social background from which these details are drawn.[1]

The "Carib Reserve" was formed in 1903 to accommodate the remnants of various Carib settlements scattered along the north, east, and southerly shores of Dominica, British West Indies. It comprises 3700 acres of rugged, indented coast-line near the middle of the island's windward (i. e. eastern) side, and is traversed in its breadth by several spurs which descend from a chain of mountains running north and south.

Du Tertre tells us that the Dominica Caribs had, by the middle of the seventeenth century, acquired a few Negro slaves, and it is probably with these that miscegenation started. The process has, at

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1 Other publications on the Carib of Dominica by Douglas Taylor include: *The Island Caribs of Dominica, B. W. I.* (American Anthropologist, vol. 37, pp. 265-272, 1935); *Additional Notes on the Island Carib of Dominica, B. W. I.* (American Anthropologist, vol. 38, pp. 462-468, 1936); *The Caribs of Dominica* (Anthropological Papers, no. 3, Bulletin, Bureau of American Ethnology, no. 119, pp. 103-159, 1938); *Certain Carib Morphological Influences on Creole* (International Journal of American Linguistics, vol. 11, pp. 140-155, 1945); *Carib-Creole Tales from Dominica, B. W. I.* (Journal of American Folklore, in press, 1946); *Island Carib Texts and Analyses* (International Journal of American Linguistics, in press, 1946); *Semantic Bases in Island Carib* (same journal, in press, 1946); *Star-Lore of the Caribbees* (ms.); *Columbus Saw Them First* (Natural History, vol. 48, pp. 40-49, 1941); W. Hodge and D. Taylor, *The Economic Botany of the Dominica Caribs* (Botanical Museum, Cambridge, Mass., in press)—Editor.

all events, been hastened considerably in recent times by failure to evict non-Carib families who were living in the territory from which the Reserve was formed, and by the subsequent introduction of Negro schoolmasters and police. Today, the inhabitants number about 450, one hundred of whom may be considered reasonably as "full-blooded" Indians.

For the most part the houses are widely scattered over the hillsides. Clusters, where they occur, are the outcome of extended family groups. Residence is with few exceptions matrilocal; separate houses for conjugal families being built near that of the wives' mother whenever increasing numbers make this seem desirable. Fishing and horticulture are the staple means of subsistence; while canoe-building, basketry, and the sawing of boards and lumber provide a surplus which is sold to outsiders for money, or exchanged for goods or services. Hunting (of wild pig, agouti, and game-birds) has fallen off very much in the past fifty years. Doubtless this is due in part to the fact that the Caribs, having abandoned bows and arrows and being unable to afford guns, are obliged to hunt with dogs alone; but the main reason seems to be that the younger generation prefers dress and alcohol to a meat diet, and therefore increasingly directs its energies toward a money economy. This has resulted in a good deal of indiscriminate lumbering which, on the top of "cut and burn" horticulture, has brought about the progressive deforestation of the surroundings, and so made game scarce.

Land is held in common but produce is personal property, and even young children are encouraged to have gardens, pigs, and hens of their own. The house belongs to whichever spouse has built it or paid for its building, and invariably goes, on the death of both parents, to the youngest child. Although in times of common danger the tribe can still assert itself, the main social unit today is the extended family group; outside of this there is little sense of loyalty, duty, or responsibility. Within it, however, and in spite of a good deal of personal freedom, individualism and individuality alike are frowned upon. An early period of extreme indulgence (say up to five years of age) is followed by a rather abrupt cessation of all outward show of affection, coupled with a demand for conformity to pattern. Perhaps the worst thing that can be said of a person in these parts is that he or she is ʔámię (Carib) or, in French Creole,

comparaison, that is to say "other," "singular," the Creole term also containing the implication of a certain effrontery. The process of socialization is effected in the main by the fear of two sanctions: (1) the merciless ridicule of other members of the group; and (2) dire afflictions proceeding from supernatural agencies. The result, in terms of character, is a shy, sly reticence in which all expression of individual thought and emotion is ordinarily inhibited, and which only alcohol can break down. The typical Carib is hospitable but suspicious; generous but irresponsible; usually quiet and well mannered, but super-sensitive at all times and often taciturn; and occasionally becoming, under the influence of liquor, acrimonious, violent, or hysterical (real or pseudo-epileptic fits are common among boys of 17 to 22). He is obstinate and reluctant to adopt new ways, and believes that school education makes children lazy and dependent. Were he to formulate his principal tenets in words, they would probably be: "Keep your eyes and ears open, but ask no questions; follow your first ideas, and keep your own counsel!"

All my informants were agreed that the "old-timers" had been extremely secretive, and unwilling to communicate their crafts, customs, beliefs, and even the Carib language itself to others! The purer among the present-day Caribs say of themselves that drink is their besetting vice, quarrelsomeness and dispute that of their Negro and more mixed associates. These in their turn accuse the Caribs of being unsociable, lazy, and lacking in ambition and forethought; but they do not, as far as I can learn, find any fault in themselves!

Obviously, it cannot be claimed that all the beliefs and customs described below are familiar to the island's—much less to the Antilles' —population as a whole. Many of them have, nevertheless, a wide distribution; and are representative as a whole, I believe, of a stage which has been reached or passed in other communities. At least they form, like the islands' flora and fauna, their inhabitants and the patois they speak, a vivid, ever changing composition into which enter native Indian, European, and African—not to mention other— ingredients.

II ORIGIN OF MAN

Some of the older inhabitants of mixed blood (although none among the purer Caribs) say that the Caribs are of underground origin *(Yon nation qui sortit en bas la terre);* and that even now some

of them, while you are standing by a pool talking with them are capable of plunging in suddenly and disappearing, only to turn up again somewhere else miles away. A tradition to the effect that there is a subterranean connection between Dominica's "Fresh Water Lake" and a sea-deep called L'Abîme off its southwestern coast may have something to do with this belief. See also the account of two brothers' rejuvenation by plunging into the Orinoco (story of Máruka and Simanári).[2] The attribution of an underground origin to man is, of course, common to many North American emergence myths.

The Caribs themselves have myths which attribute the origin of their breed to the union of a girl with her brother, who subsequently became the moon (see story of Híali); or to that of a girl with the anthropomorphic "master" of *tête-chien* snakes *(Constrictor Orphias:* see IVc 4 and story of Bakámǫ).

III MAGICIANS

The French terms *magnétiseur* or *savant* are employed by the Caribs nowadays to designate the old-time shamans (Carib búye) who claimed to send their souls on flights in search of the uméi (see under IV) or other spirits afflicting their patients, and to call in their own familiars for advice and help. Their prototype, although remembered still by some of the old people (see under VI), can no longer be said to exist. The *docteurs* of today, who combine sympathetic magic with herbal lore, massage, scarification, and cupping (see under IX) are, at the most, *demi-savants.*

As the name suggests, a *divineur* is primarily one who discovers that which is hidden—usually lost property, or the culprit of some misdeed (which itself may be of a magic kind). His usual procedure is, after the recitation of certain "prayers," to open at random and read from the *Imitation of Christ,* subsequently interpreting the passage so as to fit the problem he is asked to solve.

The above categories of individuals may be said to possess a certain esoteric training and power, if only as in the latter case that conferred by literacy. The case is somewhat different with those practices known as kʼǫ́mbwa (or čǫ́mbwa), ó·bia (often spelt obeah),

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2 See *Carib-Creole Tales from Dominica, B. W. I.*

and piáy.[3] Be it said at the outset that the first two terms are, today at any rate, synonymous, and used to designate all kinds of sorcery; while the latter is limited to the making and working of black magic. Note that while one "works" ó·bia and "makes" a piáy, the person, animal (such as hunting dog), object (such as canoe), or (e. g., building) operation against which these practices become effective are said to be suffering from a *l'amarrage,* or spell-binding (see section IX). Magical practices intended to ensure fertility, to protect a field or its produce against marauders, or to influence the attitude of person or persons in a particular circumstance (especially that of judge or jury during a trial) would be ó·bia but not piáy. Any person not otherwise endowed can practise such magic, provided he be acquainted with the proper formulæ or recipes and carry them out correctly. These are often taken from the works of the medieval Dominican monk, Albertus Magnus, and even from the prayers and ritual of the church itself; and it is by no means uncommon for a priest to be made their unwitting agent when he is asked to say a mass "on somebody's head," i. e. one whose undeclared intention is that of harming or trapping somebody. In the English islands, the practice of ó·bia (or kᵓémbwa) is a punishable offence, while French law ignores its existence as such.

IV BELIEF IN SPIRITUAL ENTITIES

The Creole term zombi (jumbi in the purely English-speaking islands) is usually derived from Congo nsumbi "devil" (cf. also French *les ombres* "the shades" and Taino zemi "familiar spirit"). Its connotation appears to vary somewhat in different islands; but in Dominica this word is applied indiscriminately to disembodied souls, ghosts of the dead, or independent spiritual beings of divers habitats, forms, and practices. But whatever their particular origin or attributes, and whether met with waking or in dreams, the average rustic West Indian would as soon think of questioning the reality and importance of zombi as would the ordinary urban Ameri-

3 The terms ó·bia and kᵓę'mbwa are usually derived from West African (?) obi and kilęmbwa, both said to mean "sorcery." Note, however, that the Island Carib words for spirit, men's and women's speech respectively, were akámbwe and ó·poya, according to Breton, and that Du Tertre spells the latter term ópia. Various forms of the term piáy occur in the Guianas. This word appears to be related to Island Carib abię́ra "to cast a spell on," "to chant;" ibíę "medicine," "color."

can the existence and significance of streptococci. On the other hand, it would appear from his habit of talking aloud to the wind and the woods, the rocks and the rain; from the frequent references in his tales to the "spirit" of a person's spittle, urine, or excrement, which replies in the owner's voice until cold; and from the widespread stories of transformations of and into people, animals, and objects, especially at the time of the moon's eclipse, that the concept of mana is at the basis of much of the West Indian peasant's belief in the supernatural.

(a) *Disembodied Souls.* A woman is said to "run súkwiyą" (this word, often spelt soucouyan, soucougnan, souclian, or soucrian, appears to derive from Latin *succuba,* but is sometimes said to be African: cf. also Carib súkwíra "to tempt," "to attempt") when it is believed that a diabolic power induces and enables her to take off her skin and to flit about by night as a firefly, a bat, or in some other form, sucking the blood and milk of cattle, and the blood or, in the case of men, the seminal fluid of her human victims. While upon their escapades súkwiyą are reputed to make a noise like hens, and may be recognized, like the hebu of the Guiana Indians, by the glowing fire they carry in their hinder quarters. Lights seen moving on a lone hillside by night are usually attributed to them. I knew one old woman who openly declared that she had confessed "running suku'" to the local priest, who had prevailed upon her to give up this sinful practice! These creatures may be caught by finding, salting, and peppering their temporarily discarded skins (hidden as a rule under the mortar), or by placing various booby traps and puzzles (such as sea-sand whose grains they will stop to count) in their way.

A were-wolf *(loup-garou),* in the West Indian sense of this term, is the male counterpart of the súkwiyą, but does not fly and usually appears, unlike the latter, in dusk or the day-time. One informant told me how he and two other men, after an all-night march, had seen one as day opened in the shape of a donkey going along the road alone, saddled, and with a bell in its mouth—luckily they had been able to hide in time! Another man said that one hot afternoon when he was alone in his house, he heard a *loup-garou* rushing through the yard. He did what was considered best under the cir-

cumstances: took off all his clothes, and went out to meet it naked and with a cutlas in his hand. It disappeared, though he heard and followed it for some distance!

(b) *Ghosts of the Dead.* These are very much feared, as their appearance usually indicates that the dead person is dissatisfied with the behavior of the living, is seeking redress for some wrong done him during his life, or has come to fetch a relative or companion. Hence great care is taken that the service (including the wake, the burial, and the eight-day repetition of the wake called *la prière;* for a description of which see section VII) of a dead person should be properly conducted. I know one man who gave a third wake in an outhouse where his grown-up daughter had died months before (the first two having taken place as usual in the main building) because he one day saw her ghost there. It is said that one who leaves a wake early or alone may be followed home by the (affronted?) ghost.

(c) *Independent Spiritual Beings.* This is by far the largest class of zombi, and includes at least eight or nine different species. Whether their origin is to be ascribed to the wanderings of lost souls, or to the continued independent existence of part-souls (having belonged to particular parts of the bodies of men and women long since dead) is impossible to determine today, since those who believe in them have neither notions nor curiosity about this point.

(1) The familiar spirits, male and female (Island Carib iséiri in the men's, sémiį in the women's speech), about which more is said in section VI, have presumably disappeared along with the men and women *savants* whom they served.

(2) Perhaps the most commonly feared kind of supernatural being today is that known to the Carib as máꞃwiya (Breton's mápoya), a word which they themselves translate jab (> French *diable* "devil"), and whose characteristics correspond to those of what we usually call bush-spirits. Their enmity toward mankind is admittedly the outcome of the repeated ill-treatment they have received at the latter's hands; for although they live much longer than men, and have more human powers in some respects, these spirits are said to be easily gullible and not exempt from suffering and death. That there is no natural antipathy between them and

humans is shown by the many accounts of unions between the two "species" (cf. the story of Kàruhú). Indeed, male máꞋwiya are said to be exceedingly fond of pregnant women—a reputation to be accounted for, perhaps, by the fact that Carib women in this condition are left strictly alone by their husbands! Usually invisible to man, the máꞋwiya's approach is heralded by a whistling sound; while its vicinity or recent passage may be known by a peculiarly disagreeable musky odor (like that characteristic of a boa snake) at which the wayfarer turns aside and spits. Sometimes they appear under human or animal form for their own, usually nefarious, ends. When overtaken in the woods by darkness, a Carib may pour out a little rum on the ground, as a sort of libation, to induce máꞋwiya not to molest him. The smoking of tobacco is also thought to be a protection. Those who believe themselves to be already pursued may make and leave behind a leaf-strand puzzle, the attempt to solve which will delay máꞋwiya and give the other time to escape.

(3) Tree-spirits may belong to the above, but more likely form a separate class of zombi. The *figuier (Ficus laurifolia* Lam., a large forest tree) and the *fromager (Ceiba pentandra* L.) are believed to be so inhabited. For this reason they are rarely felled; should this become necessary, an offering would first be made to the spirit about to be evicted. It is also believed that the kapok from the latter tree is not suitable for stuffing pillows, etc., as the person using them would be continually haunted. When this tree loses its leaves for a short time in May or June, the zombi is said to be away from home. In some islands the *z'abricot* tree *(Mammea Americana)* is believed to be similarly haunted; and Joyce says that the Taino of old refrained from eating its fruit, which they held to be the food of ghosts. Among the Carib of Dominica it is believed that the wood of this tree must not be employed in house or furniture, as it would (spell-) "bind" the occupants (see under III above).

(4) The word MET (> French *maître* "master") is sometimes prefixed to the name of a kind of beast to designate what may be termed the spirit-leader of the species. Thus the *maître tête-chien,* the Master *Constrictor Orphias,* is said to appear now as a naked young man (see story of Bakámọ), now as a gigantic snake with a dazzling diamond crest which he can conceal at will by means of a

sort of membraneous lid (see story of Máruka and Simanári). It is said of him (as of more ordinary members of his tribe) that he may sometimes be heard crowing like a cock. He is the giver of all charms (see section Xc); and it was he who, when the earth was soft, made the *Escalier Tête-Chien* at Síneku (a series of giant steps of volcanic origin extending down from a headland to the sea and for some distance under it).

(5) Used in Haïti to designate the wandering ghost of a girl abnormal enough to have died a virgin, yọ lajablɛs (> French *une [la] diablesse* "a [the] demoness") here signifies a satanic female personality who, often appearing in the form of a beautiful woman, tries to entice men to follow her, only to hurl them to their death from the brink of a precipice. Some say that she gazes unwincing at the mid-day sun; others than she may be recognized (like the Guiana hebu) by the absence of the big toe or some other abnormality of her left foot. A woman "eye-witness" told me how once, while she was working in her garden (i. e. provision-ground), she herself had seen a lajablɛs in the shape of a naked woman dancing alone on a flat-topped boulder. These creatures often visit a bɛlɛ dance at midnight.

(6) Curiously enough, I have met with little if any serious belief in the Water Mama; although children often play a game called *Maman d'l'Eau* when bathing in river pools. In it one child tries to catch the others, and on succeeding asks the captive whether he or she eats flesh or fish. On receiving "fish!" for an answer, the one who plays Water Mama proceeds to duck the offender (see also the story of Foufou and Maman d'l'Eau).

(7) The bárawi and the kárəwa are, respectively, water-people and their dogs who inhabit river-pools in dark ravines, and are dangerous only to full-blooded Carib girls and women, at their menstrual periods particularly. The former have human form, except that they are covered with long thorns like the glouglou palm *(Acromia aculeata);* the latter are just like very fierce dogs with shining eyes.

Not so long ago [my informant told me] a party of Caribs returning from Marigot stopped to bathe in the Kwária ravine. Among them was a woman who

was indisposed, but she said nothing about her condition, and joined the others in the water. Well, a kárəwa attacked and killed her. Her husband managed to rescue the body, and put it across his shoulder to carry home. The dead woman tried to hinder him by clinging to every branch and bush within reach by the way. When at last the man got home, he prepared the corpse for burial, closed the eyes, then went out to get food and drink and to call people for the wake. When he returned, the dead woman had risen, and was standing upright in the doorway.

(8) The uméi are also dangerous to women.

The uméi look like very big, red áraya (kind of sea-crab), but they really are zombi who live in the sea. They can render a woman pregnant just by crawling up and urinating on her leg. Children produced in this way are just like other people, except that their upper incisor teeth are very short and round, and that they must refrain from eating certain kinds of fish and other sea-food. I knew an old woman who was the child of an uméi, but she is dead now and I know of no other.

The uméi are further credited with upsetting the canoes of those who anger them by pronouncing certain names taboo at sea, or by neglecting certain prescribed "precautions" (see sections VIIb, VIIIc).

(9) The sun, the moon, together with a number of stars or constellations are identified, at least in myth, with legendary Carib men and women such as Bakámọ, Híali, Bị̀hi (see these stories in *Star-lore of the Caribbees*) or with beasts such as the sírik (Pleiades, and a species of land-crab) and the *crabier* (part of Ursa Major, and a kind of heron). This latter bird, or its star-spirit, is still believed to bring thunder storms, and the sírik, heavy rains.

V DREAMS AND DAYDREAMS

"A Carib does not dream for nothing," one sometimes is told. Indeed, it is believed not only that coming events cast their dream shadows before, but that all manner of warning, advice, help, and in particular herbal remedies, amulets, and charms may be "given" in a dream. One old woman who had, for the past year, been confined to her home with an open leg-sore no antiseptic treatment given her had been able to heal, at last effected what appeared to be a miraculous cure by bathing in a herbal bath, whose ingredients were made known to her by zombi in a dream.

They were like little men and women about four foot high [she told me] and quite naked except for one pot-bellied fellow with match-stick legs who wore only a sort of long cloak which covered his back from shoulders to heels. That was Basil, the one who kills people. He walked about slowly; but the others all danced like mad back and forth, up and down. It was they who told me what to put in the bath that cured my leg.

The Carib's peculiar imagination (and it may well be typical of other woodsmen, fishermen, and peasants) is illustrated by the following "true stories," recounted by a middle-aged man.

I was going up from the Crayfish River one moonlit night, when I saw a little dog whose eyes shone like lamps. He sneaked along beside me, and when I reached the track leading to Yona's house he stood in my way and would not move. I advanced, and he allowed me to pass, rubbing himself against my leg as I did so.

I told this to Yona, who said that it must have been a zombi.

That night as I slept at Yona's house, I dreamt that a man came to me and said he would have thrown me over the edge of the cliff had I beaten him (the dog).

I believe that dog was a dead friend of mine who had taken that form.

The other true story might be described as a day-dream, except that it took place at night!

One bright moonlit night (I had taken nothing at all to drink) I was passing by that same track I know so well on my way to Yona's, when a blade of razor-grass brushed my cheek. Without thinking, I broke it with my fingers. Immediately I found myself off the track in the midst of a thicket of razor-grass and bush, with no way out, try as I would, either up or down. At last I bethought myself to turn my shirt inside out; and having done so, I at once found myself back in the track, and Yona's house only just ahead.

VI REMINISCENCES

Oh! yes; Petit François was a real *savant* [mused an old woman in answer to my questioning.] While he was Chief the Caribs were strong; and the Creoles, white and colored alike, respected us. When he went down to Roseau, he was accompanied by his valet, Méto; and the white *Général* (Governor) used to invite him to dine.

People here did not get sick then as they do now; and when one was sick 'ti François knew how to cure him only by massage [Creole manye > Fr. *manier* "handle," "manipulate"; but the usual method is a form of massage]. But to do this he first would make the house dark. They say he had a zombi that helped him. When they wanted to consult the spirits, they would first prepare a lot of

food and drink—mostly cassavas and either rum or sákuti [fermented beer made from chewed cassavas, from ripe corossal (*Anona muricata*), or from the sap of the glouglou palm]— and set it at one end of the house on little basketry tables called matútu. Petit François would allow nobody but his friends to come near while this was being done. Then doors and windows were shut fast, and all fire and light extinguished; and 'ti François would sing to make the zombi come down. When they came, you could hear them feasting, though you could not see them; but when they had gone again and light was made, everything appeared as if untouched. That is because they (the zombi) consumed only the soul of the food and drink. Petit François and his friends took what was left—but they must not have mixed with their wives before that!

My grandfather, Michelin, wanted to become *savant;* and Petit François was to have instructed him. But first, so 'ti François told him, he must not mix (cohabit) with women for twice forty days. My grandfather could never take heart for so long, and that is why he never learnt properly.

Petit François used to receive strange visits. He told people it was his friends from the rivers Orinoco and Amazon. Once they sent him the smoked haunch of a woman, and an other time a little lame boy—I forget his name—to make his soup of. However, a priest got hold of the boy and made him baptized; but when the holy water touched him, the boy fell dead.

It was 'ti François who filed down the teeth of the kárɔwa [see IV c 7] so that they are no longer so dangerous as they were. And it was he who, when the rats became too troublesome, sent for their Master [see IV c 4] and made him promise to keep better order.

I well knew old Gabriel Jim [she went on, encouraged by a "grog" I pressed on her]. *Jim-la kanari-grand' gueule-dents rondes-poils blancs* [the Creole is here Frenchified for simplicity], the children would call him behind his back (for they were afraid to mock him to his face). Once, when Jim was fishing off the rocks, a young man laughed at his long white moustache; and Jim caused the grin to stick on the young man's face, so that ever after he had a crooked mouth.

Jim was a *savant,* too. He had a zombi which he kept in a sírik's claw, wrapped up in cotton. I do not know what became of it; but I suppose that before he died, Jim passed on the zombi's name and the claw to his son, Déyab, who is still there [alive]. If he left his fishing-lines on the beach, and somebody handled them, Jim knew it at once and could tell you just by smelling them whether it had been a Carib or a Negro. He would call out to his daughter, Andrea: "Come here for me to smell peteroku ["thy rump," Carib] and know if thou hast not taken some big Negro talvan!" [name of a variety of banana].

Once when Jim was very ill and nearly died, he sent a boy with a kanari [round earthenware vessel] to get water from the current of the river. He drank the water and got well.

Jim died very old in my father's house. Already he had fallen into second childhood, and spent his last years just sitting and making *la pite* [variety of wild pineapple] lines of all sizes. He could make them of 2, 3, or 5 ply. When he was dead, they found a huge bundle of line under his pillow.

Perhaps it was because the young men used to mock him that he never showed them the things he knew.

Oh! they were a bad lot though—nothing but old zombi themselves, those old-time Caribs who were unbaptized [she piously concluded]. And the proof of it is that I well remember, when I was young, how the dead would rise at Christmas time and come to dance around their old homes.

VII THE LIFE-CYCLE

(a) A pregnant woman is considered "good" to sow corn, or to plant generally; or even, in the case of a first pregnancy, to render a barren tree fruitful by placing a stone against or upon its base. She is on the other hand subject to many restrictions. She should not bathe in the sea, as this would cause it to rise (i. e. become rough); handle a new-born infant, who might thereby get colic or convulsions; nor pass her hand through anyone's hair for fear her gesture should make it fall (but compare section VIIIa). She must avoid walking in the bush or high-woods because not only zombi, but also *têtes-chien (Constrictor Orphias)* and *couleuvres* (a local grass-snake) would go after her; and neither she nor the prospective father must kill one of these snakes, or else the child would not learn to walk properly, but "just pull itself along" like a snake. (According to most informants this rule also applies after the birth and until the child can walk.) She must also refrain from certain foods, and in particular from the flesh of animals whose undesirable qualities might be transmitted thus to the unborn infant. Families vary somewhat in this as in other practices, but turtle, iguana, and parrot are always on the forbidden list; the first two because they would prevent or hinder the child learning to talk, the third because the child would inherit its hooked nose! (An odd belief assigns the same origin to turtles and iguanas. It is said that, when the eggs hatch, some offspring take to the sea and become the former, others to the woods where they turn into the latter).

(b) Although interesting from other angles, there is little in the accouchement itself which can be attributed to belief in super-

natural agencies. The scissors with which the umbilical is severed must not be used again until the navel has healed and the cord fallen off. The latter is planted near the house together with a banana-slip for a boy, or a yam for a girl, the eating of whose produce when mature is the occasion of a minor family festivity.

The child is not put to the breast (nor as a rule given any other food except perhaps a little arrowroot) for the first three days, after which a purgative is administered to the mother. Food and other restrictions are imposed on the latter for varying periods, the more severe terminating after forty days, when she is sent to bathe in the sea. Mother and child are bathed for ordinary hygenic purposes immediately after parturition; but three to fifteen days (according to family practice) after having given birth a woman is ritually bathed by the wise-woman in water which contains sometimes as many as twenty-six different leaves and herbs. Mother and new-born must not be visited (much less handled) by those who are heated, weakly, sick, deformed, menstruating, or pregnant. Women in these last two conditions might cause the child to get colic or convulsions. The wise-woman will sometimes treat an ailing infant by blowing tobacco smoke on it.

The father must not cohabit with the mother for at least forty days after the birth, although this is said to be, curiously, for the child's sake. He must moreover avoid all strenuous labor (such as felling or sawing timber or hauling canoes) which, it is considered, might strain the child, until the latter gains in strength. As a precaution against such a mishap he ties a home-made thread of *la pite* (variety of wild pineapple) around his own, and another around the baby's loins. He may, in order to strengthen a weakly child, rub his own sweat onto it, or, if it is old enough to go out, take and bury it up to the neck in the sand by the edge of the sea.

(c) Lactation is supplemented from the outset by arrowroot *(Maranta indica)* or tólomą *(Canna* spp.); and was usually continued, until quite lately, for three or four years. In order to arrest it artificially, a Carib woman will milk herself onto a hearth-stone or into a nest of the so-called biting ants.

To cut an infant's hair too soon would weaken the child. This operation is therefor delayed for a year or more. Carib parents are

always very perturbed if their children seem backward in learning to walk or talk. In order to hasten the former process the soles of the feet may be "swept" with a bundle of fine pointed grass called *z'herbes flèche,* rubbed with the cast-off shell of an áraya (species of sea-crab) or with a live baby sírik zombi (species of river- or land-crab). That it may talk the sooner a child may be given a pipe to suck or have its lips rubbed with a small live river shrimp or crayfish. Similarly, adolescent girls will sometimes catch a young sucker-fish (Carib makúba) while bathing in the river, and pass it over their chests, believing that this will cause their breasts to develop as long as the fish lives and grows (see also the story of the Carib and his Dog). Note that in all cases of a young live creature being so used, it is released into its natural environment as soon as it has served its purpose.

(d) During their menstrual period girls and women must not wander abroad nor bathe in the rivers, being particularly exposed at such times to the attentions of zombi (see IV c 7). Older Caribs indeed declare that they should keep to the house altogether, since other people who might inadvertently walk in their footsteps "would catch swellings in their legs and joints" by doing so. Nor must they eat any game killed by dogs or gun. Were they to do so, these implements of the chase would thereby be "spoiled" for further use unless subsequently "blessed"; while in the latter case the foolish woman herself would suffer the consequences of the broken taboo. Any man so foolhardy as to cohabit with a woman who "is seeing her moon" would be prostrated by severe back-ache and general debility for a good while afterwards. There is a legend, not taken very seriously today, to the effect that men used to menstruate formerly, but ceased because the women laughed at them.

(e) The Carib dislikes and probably fears the indiscriminate use of his name, particularly by strangers. When away from home he often adopts a *nom de voyage* so that "nobody can do him anything." It is usual for him to have at least two personal names: that given by mother or grand-mother at birth and by which he is generally known, and a baptismal name given by the godparent of like sex and which is rarely if ever used again (except perhaps by the priest). In his (or her) own circle, he is addressed by a nickname,

or by a term of endearment or kinship, such as: La Guerre (war), Kalemią, Kurapiáo (kinds of birds), Boy, Jeune Homme, Bébé, Sèsè (sister). Compère or Ma Commère are employed between parents and godparents even when these are siblings. Other forms of address are Cousin (or Cousine) and Dada (child's name for girl or woman who has had most to do with looking after it, be she grandmother, aunt, or elder sister). A person is also referred to by an abbreviated form of his (or her) non-baptismal name plus patronymic: thus Ham Nini stands for Hamilton (son of) Nicolas. Married women are always referred to and sometimes addressed (even by parents and siblings) as Ma' (> *madame*) N– (non-baptismal name of husband). Surnames or family names, known as "titles," are as yet little used, and in some cases unknown. All those I have investigated are nothing but the personal name of a grandfather or great-grandfather. Different branches of the same family often (and in at least one case two full brothers) attribute different "titles" to themselves.

"To call out the name" of somebody means, in patois and in Carib alike, to abuse that person. While at sea certain names are taboo (e. g., the fish usually known as *daurade* is then called *plate);* and old women about to search for wild yams, called wáwa *(Rajana cordata),* will substitute bi̯hi or kundu for this name, or even say that they are going to *fouiller fourmis,* to "dig up ants"!

It is also believed that, as is the case with men, to know a spirit's name is to have power over it. Old people usually refuse to tell stories in the daytime on the grounds that spirits whose names occur in the tales might be about (the márwiya are thought to be abroad in the daylight, returning to the forest at dusk), and resenting this familiarity, turn the story teller into a basket!

(f) Death is feared less in most cases than is the ghost of a dead person. Its event is announced to the community by six long blasts on a conch-shell in the case of an adult, three blasts for a child. (During the night one blast only is given.) The body is at once washed, combed and dressed. (This is the only occasion on which the now obsolete wáiku [breech-clout] is still worn—underneath a best suit.) This office is performed by a man or woman previously chosen by the deceased, much as a midwife is picked out to assist

in a coming accouchement. The last Chief, who died in 1941, even insisted that this be done for him before he had breathed his last; the old wise-woman in question having spent the last few days in her "patient's" house—not in order to nurse him, but to tell him stories and myths so that, as she explained to me before the dying man, his passing might be a pleasant one!

The eyes of the corpse must be closed and not allowed to reopen, otherwise they would cause the death of whomever they looked at. The cheeks and lips are sometimes reddened with rocou *(Bixa orellana)*. When some one fears the ghost, he is invited to step over *(enjamber)* the corpse. To do this even accidentally to a living person is said to "spoil" him (or her); and a person so stepped across would indignantly demand to be *déjambé* at once (i. e. to have the harm done him removed by the other's stepping back the way he came).

Burial must, by law, take place within twenty-four hours of death; and as large quantities of food and drink have to be provided for the wake, to which all and sundry are welcome, neighbors do all they can to help at such times. French *cantiques* are sung at irregular intervals throughout the night by some of the older people; while others mill around, in and outside the hut, talking, smoking, and drinking. Voices become more raucous as the rum circulates and the night wears on. Now and again some one goes up to the exposed corpse and apostrophizes the dead man: proclaiming his virtues, bewailing his decease, and protesting his own freedom from any responsibility for it. He may even beseech him to take a cigarette, and to join him in "a last little parting drink."

In the morning some friends or kin (never the immediate family) hasten to make a rude coffin of boards, while others go to dig the grave in the little cemetery by the sea. A current opinion that the depth of the grave should accord with the height of the deceased may be a survival from the days when Caribs were buried in a sitting posture. This custom is remembered still by some of the old folk, who say that it was abandoned because the ghosts of those so buried used to trouble people. During the nineteen thirties a man was buried with a cudgel and a bottle of rum by his side so as to enable his ghost to go after those who had brought about his death (i. e., by piáy). As soon as the coffin is removed the women folk (women do

not accompany it to the cemetery) start scrubbing out the house. The men, and particularly those who have borne or otherwise handled the coffin, go to bathe in the river immediately after the interment, and before resuming their ordinary occupations, or more often their carouse.

It was, and in several families still is, customary to set food in the deceased's place daily until after *la prière*. This is a sort of second wake held eight days after the first (although it may be delayed if poverty makes it impossible to provide a fresh supply of food and rum so soon). Flowers and lighted candles, photographs or personal belongings of the deceased take the place previously occupied by the corpse. Singing, eating, and drinking, and for the younger set surreptitious love-making proceed much as on the first occasion. Only at *la prière*, however, does one sometimes see the young people form one or more *rondes* outside the house toward morning, and proceed to *tirer contes*. Two young men are sent into the middle of the ring, and these, having first placed two pieces of wood together one across the other "to act as a door and close them off," start to recite or sing certain farcical pieces reserved for these occasions. When one couple has finished, its place is taken by another. Some say that the crossed woods are supposed to represent a *chantier* (scaffolding for sawing lumber); and certainly a sawing bout between Compère Mouche (fly) and Compère Poulx-Bois (wood-louse) is the theme of at least one such *conte*. These are, properly speaking, neither tales, riddles, nor songs, but a series of versified questions, answers, and jokes accompanied by all sorts of clownish antics. Phrases such as "Whip him! Do not whip him! Not I who killed father!" recur and are followed each time by blows given with a mock bútu (Carib for "war-club") consisting of a knotted kerchief. It seems not impossible that these games should be fragmentary and distorted survivals of ancient whipping rites originally meant to drive away evil spirits, or even the ghost of the deceased himself.

VIII OMENS, MISCELLANEOUS BELIEFS AND PRACTICES

(a) Like people the world over, the Dominica Caribs believe—some more, some less—in certain signs or portents. Children born with a caul (*coiffé* is the Creole term) will see plenty zombi all their lives unless they be made to eat it. If your ears ring, it means that a

zombi—some say a person—is talking about you, and that if you wish to see him, you must eat gombo (ochra) tops. Falling hair indicates that you will soon get married (cf. section VIIa). Joining hands on top of the head is a sign of mourning; and children inadvertently making this gesture are severely berated and told "I (or your mother or father) am not yet dead!" Yawning is said to show hunger, sweating that you have "plenty blood"; while *l'humeur, chaleur,* or *l'inflamation* are synonyms for a condition whose manifestations are feverishness, pimples, or boils (the latter are said to be one's "children coming out"), and whose cause is believed to be lack of sexual intercourse!

If you burn the milk, the cow will soon go dry. There will be a good catch of fish when the abolo (species of lizard) runs in the bush. The arrival of a visitor is announced by the singing of the zi (a small cicada-like insect that lives in the ground). The *chat-huant* (kind of screech-owl) foretells either a birth or a death: the former by a peculiar ticking noise, the latter by a loud hissing "sh . . sh!" The call of the *coucou-manioc* promises fine dry weather; while the *siffleur de montagne* brings rain when it is mocked; and the *crabier* (species of heron) causes thunderstorms.

(b) There are a number of miscellaneous beliefs and practices connected with everyday life and grounded, for the most part, in sympathetic magic. No one should leave the hair or nail clippings lying about, for fear his enemies might find and use them to make a piáy on him. Nor should these, nor bandages from wounds or sores, be burnt, since this would cause fever and prevent the wounds or sores from healing. Similarly, after drinking from a receptacle any drops left in the bottom should be poured out on the ground. It is considered by many unwise to eat food after dark. The possible consequences of breaking this taboo appear to range from "becoming spoiled," i. e., losing one's luck, to being transformed into an animal (cf. VIIe). Wawa *(Rajana cordata,* a wild yam; cf. VIIe) must never be planted, or your entire family would be likely to die out. Never burn an old axe-handle, or the new one would blister your hands. Salt, if given to a woman on a Friday, may put you in her power should she happen to be a súkwiyą; while salt scattered in the yard will help to rid the house of an unwelcome guest. If you

discover the footprints of a thief, and taking a little of the earth from them, put it into a wood-ants' (termites') nest, the miscreant's feet will swell up and become fissured. Do not feed any pea-pods (*Phaseolis*) to pigs or other domestic animals, as these would make them turn vicious. A male animal soon to be slaughtered would be useless as a sire, since his young would be bound to die also. Grown girls and women must not sit or even lean on a new canoe in the process of being made or opened up to have the sides raised, since the canoe's luck would thereby be spoiled, and this might even spell disaster for its occupants.

Sowing and planting of particular species, hunting and fishing for different kinds of beast, bird, and fish, felling of trees for canoes or lumber, and the taking of ritual baths (see section IX), must be undertaken on the right day of the moon's phases if a favorable result is to be looked for.

The foufou (crested humming-bird) is said to lead lone children astray. No explanation is given for this belief (but see stories of Híali and of Foufou and Maman d'l'Eau). The "seed" of the tree-fern is reputed to be very lucky and to possess magical virtues, but to be obtainable only by spreading a sheet beneath the tree on mid-summer's night. Elsewhere in Dominica, the flowers and seeds of the bamboo are also believed to have magical, but in this case baleful, properties.

The old-world belief that the sun dances on Easter morn is still held in Dominica.

(c) As elsewhere in the world, the hazards of hunting, fishing, travelling by sea and land, fighting, etc., are conjured by a series of particular practices. To ensure or improve his luck a hunter will gash his arms and legs and rub into the wounds a mixture of rum, sulphur, and mercury. His dogs are bathed in herbal baths appropriate to the animal they are to chase; their noses are pricked with a new needle to improve their scent; and they are physicked with *chauffe* (rum in which fierce ants, scorpions, and various hot spices are steeped) to increase their ardor.

When setting out on a hunting expedition, a man must not eat sugar-cane or ripe bananas, cut *bois bandé* (*Richeria grandis* V.), nor catch or kill sírik crabs. If he should eat any game while in the

woods, he must not put any gombo (ochra) in the cook-pot, nor cover the latter while it is on the fire under penalty of having the species of game he is cooking elude him and his dogs in the future. To handle peas (*Phaseolis*) would be disastrous to either hunter or fisher.

The latter must not eat corossol (*Anona muricata*) before setting out, as this would cause the fishes' mouths to be soft and prevent their biting. Until he has gone, those in the house must avoid stepping on pea-pods, sweeping, or even touching a broom; and all the time he is away, they must on no account turn couis (dishes made by cutting a calabash longitudinally in half) upside down, or clothes being washed, inside out. Arms must not be crossed while watching the canoes set out. Fishermen (or others putting to sea) examine the canoe's ballast-stones to make sure that they have not been overturned by chance or mischief, as this is believed to bring calamity in its wake. While at sea, certain names must not be pronounced, substitutes being used (see VIIe); and when baling or drinking, it is imperative that not a drop of water be spilled inside the canoe. Should the first fish caught be a *poisson malheur (Coryphene hippuris)* there will be no luck that day, and the boat will probably give up and return to shore. Incoming canoes are met by women or children, since it is believed that a fisher's luck would be spoiled should he have to carry home his own catch.

IX SICKNESS AND REMEDIES

Medicine and magic are, as is the case in all folk-cultures, very hard to distinguish, since the proximate causal factors of disease are in the main ignored. By and large any affliction must, from the Caribs' point of view, have either one or both of two causes: an "imprudence" on the part of the sufferer, or/and "wickedness" on the part of another. By the former is meant any disregard (through commission or omission) of the prescribed behavior-pattern, be this of a supernatural or of a rational order. For example, by eating or drinking something—or by performing any other action—tabooed generally or at a particular time or place or under specified circumstances. By the latter (Creole *méchanceté*) is meant black magic, whose technique is here called piáy and the consequences of which are *l'amarrage* (see section III). Moreover, it is possible that the

victim is not the person for whom the piáy was intended; since the latter may be compared to a trap worked by blindfold agencies and released by whomever stumbles across it. What we should call accidents are also put into one of the above categories.

Some diseases are, however, said to "run," i. e., to be epidemic. This concept should not be confused with our own ideas on infection and contagion since neither proximity nor contact are considered necessary for the spread of such a disease. This attitude may be explained, e. g., by the case of malaria spread by anopheles, themselves affected by seasonal climatic changes; but it is just as apt to be taken with regard to intestinal worms or toothache.

Remedies may be classified as follows (1 and 2 being by far the most common): (1) herbal "teas" and other preparations to be ingested. Human (preferably boy's) urine is drunk to relieve indigestion or to hasten parturition. Emetics and purgatives, besides their ordinary uses, are thought to remove any "moral" as well as "physical" disability under which one may be suffering, and are often taken before setting out on a difficult undertaking or voyage. (2) Baths in which from twenty to thirty different herbs and leaves may be steeped. These may be either preventative or curative; and are as a rule prescribed to be given or taken at a particular phase of the moon, or so many days before or after some event. Whatever the supposed cause of the affliction, either or both the above treatments may be employed. By and large, however, such baths are considered to be a *démarrage,* i. e., to undo or to prevent the consequences of *méchanceté;* while "teas" often have real medicinal value and are intended more to counteract the consequences of some "imprudence." Moreover, such ritual bathing is performed, usually secretly, not only in the case of people, but also on hunting dogs and canoes. (3) Sweat baths are taken (often in conjunction with 1 and 2) in case of puerperal fever, chills, swellings or "puffiness." (4) Massage and other manipulations are used for enlarged spleen in men, and for uterine pains in women. (5) Scarification and cupping are usually reserved for local pains and aches. (6) Plasters and poultices made from chopped leaves, together with animal greases or fats, are used on wounds and sores or bruises. (7) Various remedies, such as the blood of a zandoli (*Anolius* sp.) lizard for asthma; rubbing the temples and hands of an epileptic with salt; drinking water from

a mortar or from a burgau-shell to cure stuttering; or applying human urine locally to allay ear-ache, counteract a sting, or to bath the brow in fever or head-ache. (8) Sympathetic magic—such as taking an *Opuntia* leaf of the exact size of the patient's right foot and drying it over a slow fire with a view to reducing an enlarged spleen—may be and often is employed in conjunction with any of the above.

X AMULETS AND CHARMS

(a) So-called *gardes-corps* are amulets in the form of little bags hung round the neck by a cord, and in which are sewn up a variety of objects intended to protect the wearer. The contents of these amulets is kept a great secret, and may even be unknown to the wearer. Several sceptics who have undone their own or others' *garde-corps* tell me that they contain such things as feathers, bones, or hair of birds, fish, or animals; herbs, pebbles, chemicals (sulphur, mercury, and asafoetida are favorites); and also contain *oraisons* (written invocations to Catholic saints).

(b) Charms fall into two distinct classes known respectively in Creole as *chances* and *charmes*. The first, which consist almost exclusively of herbs carried or rubbed on the body, are intended to bring their user good luck in some specific undertaking, such as travelling or fighting, or in the pursuit of some species of bird, animal, or fish. In the latter case they are carried in the tackle box on every expedition, the hunter using them to rub his gun or dogs, the fisher to rub on his fish-hooks. The second class *(charmes)* are intended to give their user power over a person or persons. They take various forms, and may be employed like *chances*, or ingested. Of the latter type is a love-charm made from the brain and tongue of the crested humming bird (see also the story of the Spirit of the Rock, and that of Ye and the Pumpkins).

(c) Both legend (see story of Máruka and Simanári) and tradition assign to the *tête-chien* snake (or to its mythical Master; see IV c 4) a great role in the origin or discovery of charms, and in particular of that variety of *Maranta indica* known as *l'envers tête-chien*, or *l'envers caraïbe*.

Fairly reliable reports say that large numbers of these snakes are

occasionally found massed together in conclaves called *cavalages*, presumably for mating purposes; further, that the female drops her young in a line, one after the other, then returns and devours all those who have failed to coil up. To this tradition adds that a member of the species guards every mountain top, and warns those below by crowing like a cock; that they have their own snake-doctors to whom they travel for miles when wounded, and by whose ministrations old-time shamans were resuscitated even after death.

Caribs say that the charm-plant called *l'envers tête-chien* (perhaps because its long thin tuber, after descending for two or three feet, coils on itself like a snake, or because of its markings), if it cannot be procured in any other way, may be "planted" as follows:

> Go into the bush on a certain day [of the moon?], and watch for a *tête-chien*. If you succeed in surprising one and cutting off its head with one blow and without its having sensed the danger, the rest is easy; but were it to hiss only once, it would be useless to proceed. Then dig a hole on the spot so as to bury the head without touching or removing it. A month or so later you will find *l'envers tête-chien* growing on the spot where the head was buried. Before removing the plant and for fear it might growl at you, it is prudent to pay it [the snake's spirit?] by burning a little powdered tobacco. Put a small silver coin in the hole where you replant it; and let nobody tend it but yourself.
>
> A little of the starch [obtained as a deposit from water passed over the grated tuber] placed in your mouth or rubbed on your body will give you power over all people with whom you have to do.

DOMINICA
BRITISH WEST INDIES

A METHOD FOR ANALYZING CLASSIFICATORY RELATIONSHIP SYSTEMS

B. RUHEMANN

IN AN ENDEAVOR to study the kinship systems of Australian tribes I found myself faced with difficulties when trying to compare the systems prevailing in different tribes and to define points of similarity or difference. To overcome these difficulties I developed for my own use a system of tabulating kinship terms which to the best of my knowledge has not been used or described by other authors. I then applied this new method to the analysis of some "aberrant" kinship systems, and found that it was of considerable aid to me in understanding the peculiarities of these and in defining their "anomalous" features in more precise terms. The results of this analysis point to some interesting conclusions. The method itself may prove valuable not only to those interested in the systematics of kinship, but to the fieldworker collecting relationship terms. I thought, therefore, that it might serve a useful purpose if I gave here a brief description of the method and some of the results obtained by it.

A NEW METHOD OF TABULATING KINSHIP TERMS

It will be simplest to describe my method by stating in what way it differs from the familiar ones as used for example by Prof A. R. Radcliffe-Brown[1] and Prof A. P. Elkin.[2] Both authors use the "Table" form of presenting kinship terms which is distinguished from a simple list by the introduction of generation-levels; i. e., all relatives in the same generations are listed in a horizontal line, all those in the preceding generation in the horizontal above, and those in the succeeding generation in the horizontal below. Prof Radcliffe-Brown further clarifies the presentation by placing every father vertically above his son, so that a two-dimensional table results, the vertical columns in the case of the male relatives representing descent lines. The women, however, are in each case written by the

1 A. R. Radcliffe-Brown, *The Social Organisation of Australian Tribes* (Oceania Monographs, no. 1, 1931, chart p. 64, pp. 18, 75).

2 A. P. Elkin, *The Australian Aborigenes* (Sydney and London, 1938), Chapter 3, part 2.

side of their husbands, hence these columns have no analogous significance.

It is in this respect that I have altered the method of tabulation. I have entered every woman vertically below her mother, so that now all vertical columns represent descent lines, alternatively male and female, denoted by $m_{1, 2}$ . . . and $f_{1, 2}$ . . . respectively at the head of each column (see Tables 1 and 2). For the purpose of demonstrating by this method the characteristics of Kariera and Arunta organizations I have entered in their appropriate positions both the

TABLE 1

Kariera Structure

	f_1		m_1		f_2		m_2	
2 ↑	= BURUNG kandari	⇄	BURUNG maeli	=	BANAKA kabali	⇄	BANAKA tami	=
1 ↑	→ PALYERI nganga	=	KARIMERA mama	⇄	KARIMERA toa	=	PALYERI kaga	←
0	= BURUNG turdu/mari	⇄	BURUNG kaja/margara	=	BANAKA nuba	⇄	BANAKA kumbali	=
1 ↓	→ PALYERI ngaraia	=	KARIMERA mainga	⇄	KARIMERA kundal	=	PALYERI kuling	←
2 ↓	= BURUNG maeli	⇄	BURUNG maeli	=	BANAKA tami	⇄	BANAKA tami	=

divisional names (in CAPITALS) and the kinship terms (in small type); the particular division in generation o with respect to whose members these terms are taken is indicated by a frame. I have further indicated symbolically the particular classificatory relationship obtaining between the members of any two groups which are found in neighboring positions in the table and only these, in order not to confuse the picture with crosslines. The symbols have the following significance: = stands for the "marriage" relation, ⇄ for that between "brothers" and "sisters," × for that between "cross-cousins" where it is not identical with =. No special symbol for descendents is, of course, required with this method.

Such a table provides a useful means of demonstrating the peculiarities of classificatory kinship systems. It shows how a multiplicity

TABLE 2

Arunta Structure

	f_1		m_1		f_2		m_2		f_3		m_3		f_4	
×	PANUNGA arunga		UKNARIA ipmunna	=	UNGULLA chimmia		PURULA apulla	×	UKNARIA ipmunna		PANUNGA aranga	=	PURULA apulla	UN ch
	KUMARA umba	=	BULTARA mura	⇄	BULTARA mura	=	KUMARA umba*		UMBICHANA mia	=	APPUNGERTA oknia	⇄	APPUNGERTA uwinna*	= UMB ga
=	UKNARIA ipmunna	⇄	UKNARIA ipmunna	×	PURULA apulla*	⇄	PURULA apulla*	=	PANUNGA ungaraicha (itia)	⇄	PANUNGA kullia (itia)	×	UNGULLA chimmia*	⇄ UN ch
→	UMBICHANA mia	×	BULTARA mura		APPUNGERTA uwinna*	×	KUMARA umba	⇄	KUMARA umba	×	APPUNGERTA oknia*		BULTARA mura	× UMB ga
×	PANUNGA arunga		UKNARIA ipmunna	=	UNGULLA chimmia*		PURULA apulla*	×	UKNARIA ipmunna		PANUNGA arunga	=	PURULA apulla*	UN ch
	KUMARA umba	=	BULTARA mura	⇄	BULTARA mura	=	KUMARA umba*		UMBICHANA mia	=	APPUNGERTA oknia	⇄	APPUNGERTA uwinna*	= UMB ga
=	UKNARIA ipmunna	⇄	UKNARIA ipmunna	×	PURULA apulla*	⇄	PURULA apulla*	=	PANUNGA itia	⇄	PANUNGA itia	×	UNGULLA chimmia*	⇄ UN ch

* Within the groups of relatives marked with an asterisk there is a smaller group the members of which are addressed by special terms; these will be discussed separately.

TABLE 5

Dieri Structure

		m_1		f_1		m_2		f_2		m_3		f_3		m_4		f_4	
2↑	×	A kanini		C yenku	=	F kami		H nadada	×	C yenku		A kanini	=	H nadada		F kami	×
1↑		B ngatamura	=	G taru	⇄	G taru	=	B ngatamura		D ngapari	=	E ngandri	⇄	E kaka	=	D papa	
0	=	C "niyi" yenku	⇄	C "kaku" yenku	×	H nadada	⇄	H nadada (noa)	=	A niyi (ngatata)	⇄	A kaku (ngatata)	×	F kami	⇄	F kami	=
1↓	→	D paiera	×	G taru		E tidnara	×	B ngatamura	⇄	B ngatamura	×	E tidnara		G taru	×	D kalari	
2↓	×	A kanini		C yenku	=	F kami		H nadada	×	C yenku		A kanini	=	H nadada		F kami	×

x 2

tructure

f_2		m_2		f_4		m_4	
KNARIA omunna		PANUNGA aranga	=	PURULA apulla		UNGULLA chimmia	×
BICHANA mia	=	APPUNGERTA oknia	⇄	APPUNGERTA uwinna*	=	UMBICHANA gammona	
NUNGA garaicha (itia)	⇄	PANUNGA kullia (itia)	×	UNGULLA chimmia*	⇄	UNGULLA chimmia*	=
UMARA umba	×	APPUNGERTA oknia*		BULTARA mura	×	UMBICHANA gammona	←
KNARIA omunna		PANUNGA arunga	=	PURULA apulla*		UNGULLA chimmia*	×
BICHANA mia	=	APPUNGERTA oknia	⇄	APPUNGERTA uwinna*	=	UMBICHANA gammona	
NUNGA itia	⇄	PANUNGA itia	×	UNGULLA chimmia*	⇄	UNGULLA chimmia*	=

of which are addressed by special terms; these will be discussed separately.

x 5

ructure

		m_3		f_3		m_4		f_4	
	×	C yenku		A kanini	=	H nadada		F kami	×
a		D ngapari	=	E ngandri	⇄	E kaka	=	D papa	
oa)	=	A niyi (ngatata)	⇄	A kaku (ngatata)	×	F kami	⇄	F kami	=
a	⇄	B ngatamura	×	E tidnara		G taru	×	D kalari	←
	×	C yenku		A kanini	=	H nadada		F kami	×

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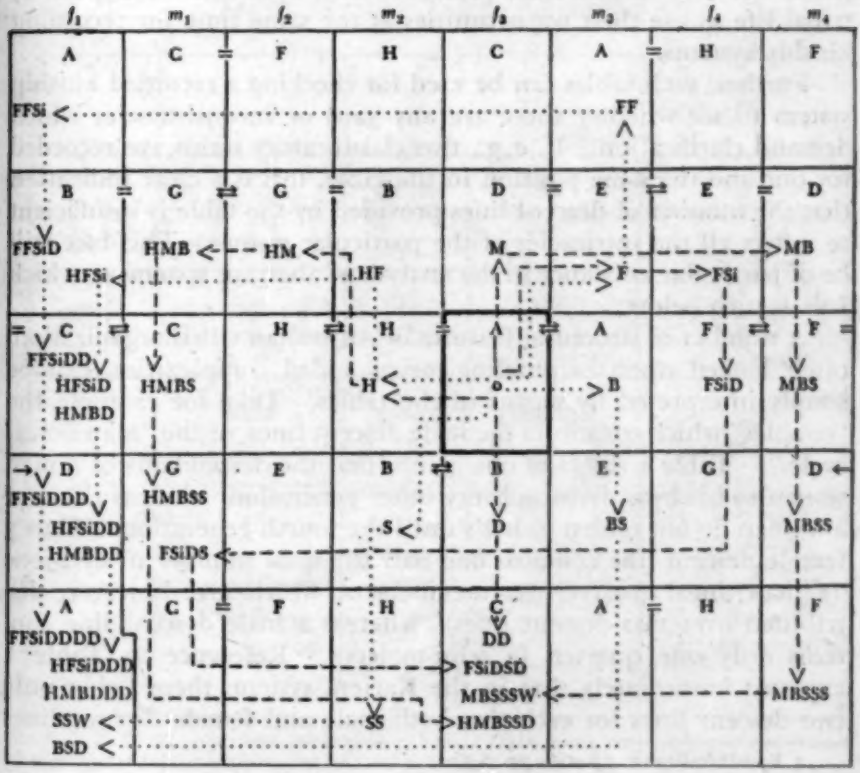
of different combinations of descriptive terms may all denote one and the same classificatory relationship and differ only in the path through which these relatives are traceable in the table: they may, in fact, refer to one and the same person. Hence, it also affords a quick and convenient means of determining whether or not two different relatives, described by different combinations of descriptive terms, are identical in the classificatory sense, and must be described by the same classificatory term if the system is correctly interpreted. As an illustration I give in Tables 3 and 4 four different ways of describing the "DD" (daughter's daughter) of a certain woman and the paths through which she can be traced in the table (broken lines), and

TABLE 3

Arunta: Modes of Tracing Relationship*



four different ways of tracing (dotted lines) her "BSD" (brother's son's daughter) in the Arunta and in the Kariera system. It is seen at once that the two sets of lines lead to two different positions in the Arunta table, but to the same position in the Kariera table. There are, of course, many other ways of describing both relatives in either case, a fact which is not only bewildering for the beginner, but may also create certain difficulties for the anthropologist in the field. In the present scattered and depleted condition of many tribes the fieldworker is more than ever dependent on individual genealogies, and the simplest and easiest way of describing a certain relative may not be the one in which a person normally thinks of him or her. Perhaps the direct and visual method I am here suggesting for the identification of classificatory relationship terms may encourage even fieldworkers primarily interested in other aspects of tribal life to use their opportunities at the same time for recording kinship systems.

Further, such tables can be used for checking a recorded kinship system to see whether there are any gaps or inconsistencies which demand clarification. If, e. g., two classificatory terms are recorded for one and the same position in the table, this is a clear indication that the number of descent lines provided by the table is insufficient to reflect all the intricacies of the particular system. This fact will be of particular assistance in the analysis of aberrant systems to which I shall turn below.

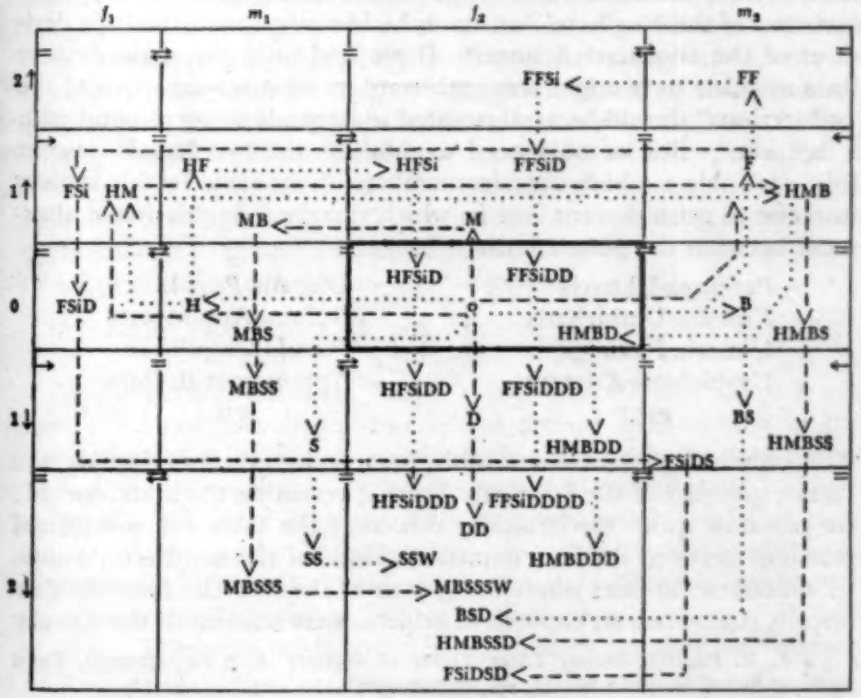
A number of structural features of Australian tribal organization, often looked upon as puzzling, or as added complexities, can be simply interpreted by means of the tables. Take for example the "couples" which constitute the male descent lines, or the "matrilineal cycle."[3] Table 2 shows at one glance that the descendants of a man return to his own division every other generation, whereas those of a woman do not return to her's until the fourth generation. Thus a female descent line contains one half the total number of divisions (a matrilineal moiety, the members of which are, however, distributed over two descent lines), whereas a male descent line contains only one quarter (a semi-moiety). Reference to Table 1 explains immediately that in the Kariera system, there being only two descent lines for each sex, both male and female descent lines

3 Radcliffe-Brown, *op. cit.*, pp. 8-9.

contain a complete moiety of the divisions. We can now perceive quite clearly that it is precisely this symmetry between the male and female descent lines which stabilizes the rule of cross-cousin marriage, which is so characteristic of the Kariera system; while it is precisely the asymmetry of the Arunta system in respect of the male and female descent lines which effectively prevents cross-cousin marriage from taking place normally. Hence, the existence of patrilineal semi-moieties and matrilineal cycles presents no special problem, but flows organically from the structure of the Arunta and similarly constituted tribes. It may be remarked in passing that the constitution of patrilocal groups is also a simple consequence of the structure of the Kariera and Arunta tribes; each such group contains the

TABLE 4

Kariera: Modes of Tracing Relationship



* A, B, C, etc., represent the divisions; FFSi, FFSiD, HFSi, etc., are the initial letters of descriptive relationship terms (Father's Father's Sister, etc.)

members of one male descent line as has been verified by Radcliffe-Brown for the Kariera[4] and by Spencer and Gillen for the Arunta.[5] In both tribes such groups must come into being automatically as soon as it becomes the custom for women with their children to go and live with their husbands, and it would seem unnecessary to stipulate a special patrilineal principle of descent to account for their formation.

As another illustration of the facilities afforded to the student of the complexities of Australian social organization by the method here described, I will chose the correlation of widely differing organizations for the purpose of intertribal marriages. It is well known that the Australian natives display an almost uncanny cleverness in determining the division of another tribe into which they may properly marry, even when the organization of that tribe is fundamentally different from their own. How, for example, are the eight divisions of the Northern Arunta to be identified with the four divisions of the Southern Arunta?[6] If we had only the male descent lines to guide us it might seem arbitrary in what way any two of the "subsections" should be amalgamated to be made to correspond with a "section." But we only need to combine the two female descent lines of Table 2 which contain members of the same female moiety into one to get a descent line in which the same double name alternates between the generations:

Panunga-Uknaria	Ungulla-*Purula*
Kumara-Umbichana	*Bultara*-Appungerta
Uknaria-*Panunga*	*Purula*-Ungulla
Umbichana-*Kumara*	Appungerta-*Bultara*
etc.	etc.

The italicised part of the double name now gives us directly the female moieties of the Southern Arunta; retaining the marriage rule we can now quite mechanically construct the table for the formal relations between the four named divisions of the Southern Arunta.

Of course, in cases where the systems of the two tribes are not generically connected, an element of arbitrariness remains in the correla-

4 A. R. Radcliffe-Brown, *Three Tribes of Western Australia* (Journal, Royal Anthropological Institute, vol. 43, pp. 175-190, 1913).

5 B. Spencer and F. J. Gillen, *The Arunta* (2 vols., London, 1927), vol. 1, pp. 63-64.

6 Spencer and Gillen, *op. cit.*, vol. 1, p. 43.

tion. But it should be noted that given the rule of marriage and descent in both tribes, it is sufficient to know the division to which a particular person belongs in both tribes for all the other correlations to be established mechanically. The reader can convince himself of this by tracing correlations of well-documented examples, e. g., between the Nyamal and Kariera,[7] both of whom have four named divisions, or between Mara[8] who have four named divisions (of a different kind from those of the Kariera) and the Mungarai with eight named divisions of the Arunta kind. The point to be noted is the mathematical precision with which these correlations can be affected owing to the symmetry properties of the social organization of Australian tribes, which are particularly clearly demonstrated by the method of tabulating kinship terms and divisions which I have adopted.

I have found these tables of particular value as a visual guide in tracing out complicated relationships in terms of the descriptive system, in order, e. g., to appreciate the implication of a marriage with the mother's mother's brother's daughter's daughter in contrast to one with the mother's brother's daughter, or with the sister's son's daughter, or father's mother's brother's son's daughter, etc. In consulting the tables when reading a report on social organization I found a very convenient and quick method of understanding differences in marriage and kinship organizations which otherwise are quite difficult to grasp for a reader not thoroughly versed in the intricacies of classificatory systems of relationship.

SYMMETRY PROPERTIES OF THE ARUNTA AND KARIERA SYSTEMS

The Divisions

A comparison between Tables 1 and 2 shows that the two systems differ not only in the number of descent lines—which in the Arunta system is, of course, exactly double that of the Kariera system —but also in what may be called the period of reproduction. Thus, so far as the Kariera divisions are concerned, generation 0 (that of the individual under consideration) is an exact reproduction of generation $2\uparrow$ (second ascending generation); likewise, generation $1\downarrow$ (first descending generation) is an exact reproduction of $1\uparrow$, and $2\downarrow$ of 0. The same holds with respect to marriage and the brother-

7 Radcliffe-Brown, *The Social Organisation of Australian Tribes*, p. 36.

8 B. Spencer, *Native Tribes of the Northern Territory of Australia* (London, 1914), p. 63.

sister relationship: i. e., the daughter of a woman and the son of her husband stand in the brother-sister relation and may not marry; but her daughter's daughter and his son's son are of the same divisions as the original couple and may marry. In the Arunta system, however, though the same divisions do appear in alternating generations, their distribution over the descent lines is not reproduced until the fourth generation, and likewise the female descendant of a woman in the direct female line and the male descendant of her husband in the direct male line may not marry until the fourth generation. Thus the doubling of the number of descent lines in the Arunta as compared with the Kariera system is accompanied by a doubling of the reproduction period.

The reproduction period provides a useful key to the understanding of the workings of an Australian kinship system. Geometrically this can be illustrated by winding the table round a horizontal axis so that, in the Arunta case, generation $4\downarrow$ overlaps generation o, and, continuing as new generations come into view, the pattern repeats itself after every turn much as that on a roll of wallpaper. Life, with its ever-changing conditions, is of course not easily pressed into such a mechanical treadmill, and there is ample evidence in Australia that kinship systems have changed in the course of time. Nevertheless, the perfect mathematical symmetries of these systems must have been a powerful stabilizing factor. It can easily be demonstrated that a lengthening of the reproduction period in general necessitates the introduction of new descent lines, i. e., a radical reconstruction of the entire system.

Conversely, new descent lines cannot be arbitrarily added without affecting the marriage rule and relationships. To use the geometrical model again: the table can be thought bent round a vertical axis till the edges meet, and we obtain a cylinder which accurately reflects the closed nature of the system which is sufficient unto itself. It finds room in its many mansions for every relative of any member of the tribe (even if this relative is himself a member of another tribe), but cannot admit the existence of anything or anybody outside itself.

It is interesting to note that the Arunta themselves seem to have a vivid sense of the symmetry of their organization, which they display in the arrangement of the camping grounds for the different

divisions within their main camp. The plan given by Spencer and Gillen[9] is in fact a kind of diagrammatical presentation of the Arunta system. A definite arrangement of the camp in accordance with the social organization has also been reported by Stanner[10] for the Daly River tribes; unfortunately, he gives no details, so that a comparison is not possible. It is, however, especially interesting that the tribes in question do not have named divisions of any kind. It is quite possible that further research may bring to light more cases of such graphic exemplification of the social system in Australia and elsewhere. I have come across two significant examples in the literature. Bateson[11] mentions that the ceremonial houses of the Iatmüll people of the Sepik River (New Guinea) are "always arranged geometrically according to the clan system." Unfortunately, he was unable to understand completely the principles involved, but the social organization itself is "curiously like the marriage systems of Australia." The other example is provided by Deacon,[12] to whom the natives of Ambrym actually demonstrated their marriage organization with highly ingenious geometrical models laid out with sticks and stones.

Kinship Terms

Does the kinship terminology exhibit the same symmetries as the arrangement of the divisions? In general, the answer is no, so far as the actual name-bearing divisions are concerned. In his classical survey, Prof Radcliffe-Brown[13] cites numerous cases of tribes with named divisions of one type and a kinship system of another, and many tribes which, though without named divisions, nevertheless possess a kinship system closely corresponding to either the Arunta or the Kariera type. It is one of the chief advantages of the method of tabulation described above that it gives us a means of determining the degree of correspondence between these two forms of expression of the social structure. This point is of particular importance for

9 Spencer and Gillen, *The Arunta*, vol. 2, p. 501.

10 W. E. H. Stanner, *The Daly River Tribes* (Oceania, vol. 3, pp. 377-405; vol. 4, pp. 10-29, 1932-34), p. 394.

11 G. Bateson, *Social Structure of the Iatmüll People of the Sepik River* (Oceania, vol. 2, pp. 245-291, 401-453, 1931-32), p. 259.

12 B. Deacon, *The Regulation of Marriage in Ambrym* (Journal, Royal Anthropological Institute, vol. 57, pp. 325-342, 1927).

13 Radcliffe-Brown, *The Social Organisation of Australian Tribes.*

the analysis of kinship systems in tribes which either possess no named divisions at all or where these are at variance with the kinship terminology. With the object of finding some guiding principles for the analysis of such systems I shall now turn again to our tables for the Arunta and Kariera.

As the tables show, the correspondence is in one sense a very close one: a given relationship term is applied by a given person to the members of a certain division only, though the opposite does not necessarily obtain. The fact, so curious to us, that, e. g., grandparents and grandchildren may be addressed by the same kinship term, appears only natural from the native point of view: they are members of the same division. The number of divisions being limited, they must, of course, recur in subsequent generations, and the application of a certain kinship term is hence governed by the same symmetrical characteristics as the distribution of the divisions over the generations and descent lines, generally speaking.

In particular, there may be, however, more specific terms, expressing shades of differentiation within the divisions. Such is the case in the Arunta system (see note to Table 2). Leaving these finer distinctions for a later discussion (see p. 567) I concentrated my attention first on those terms which are applied in the most general sense to the members of the various divisions from the point of view of a given person. These accentuate perfectly well with the divisional structure. They are, moreover, remarkable for their paucity of sex distinctions: a man and his sister apply the same terms to the same relatives. The sex of the person addressed is only distinguished in the divisions of the father and mother and in reference to an elder brother and sister; in all other cases the terms are "sexless" (the prefix yur may be used when referring specifically to a female relative). Thus, in this general aspect the Arunta terminology expresses the Arunta divisional structure relative to the members of any given division.

The position in the Kariera system is somewhat different: here the kinship terms are more specific as indicating generation than the divisional names, and there are definite sex distinctions in all except the lowest generation recorded. The kinship terminology thus reflects the existing marriage bar between alternating generations (e. g., between a man and his daughter's daughter), whereas the

divisions do not. The actually functioning kinship system and marriage regulations would be better reflected in a system of eight divisions (which would not, however, be subsections in the Arunta sense) such as that recently discovered by Th. Webb in Eastern Arnhem Land.[14] This system does not affect the period after which the marriage relation is again reproduced between any two descent lines: i. e., a man's son's son is still the lawful spouse of his daughter's daughter, but it doubles the period after which the distribution of the divisions over the descent lines is exactly repeated, and hence expresses the bar to marriage into generation $2\downarrow$ or $2\uparrow$. It is interesting that in Eastern Arnhem Land this bar is not yet carried to its logical conclusion: such marriages are still allowed as alternative marriages and it appears that they are even quite common; among the Kariera they do not appear to be practised. Among the Arunta they do not seem to occur either, though the prohibition here is not expressed in either the divisional or the kinship system; but in other tribes with essentially the same organization they have been recorded (e.g., the Nyul-Nyul[15]).

Irrespective, however, of whether or not there is in the consciousness of the people a specific bar to marriage into generation $1\downarrow$ and $1\uparrow$, $3\downarrow$ and $3\uparrow$, and $2\downarrow$ and $2\uparrow$, $4\downarrow$ and $4\uparrow$—thus for all practical purposes limiting marriage to one's own generation—that latter type of marriage is very widely, and possibly universally preferred in Australia. Though this principle finds specific expression in only a few tribes (e. g., in the Broome district and in western South Australia;[16] compare in this connection also the "lines" in Ambrym,[17] and in New Guinea[18]) it is, as Prof Elkin puts it, "inherent in the normal Australian kinship system." Certainly those systems which have been completely described provide a group from which a lawful spouse may be chosen for every individual within the same generation and one may go so far as to say that this in fact is the main factor which crystallizes the whole system out into generation levels and descent lines.

14 Th. Webb, *Tribal Organisation in Eastern Arnhem Land* (Oceania, vol. 3, pp. 406-411, 1932-33).

15 Elkin, *The Australian Aborigenes*, pp. 63-64.

16 *Idem*, p. 77.

17 Deacon, *op. cit.*

18 Bateson, *op. cit.*

The principle that every generation must (unless its divisions are abnormally depleted) be able to provide its own spouses helps us to understand, for example, how the seemingly so-complicated Arunta system may at one step have developed out of a system of the much simpler Kariera type. This course of events is by no means established, but is strongly suggested by the simultaneous existence of a Kariera type system (or, at least, formally so) in the Southern Arunta. If marriage came to be regarded as improper for two people whose parents were so closely related as to be called brother and sister in the classificatory sense, then the Kariera type system does not provide any spouses for them in their own generation; and it is easily seen that the addition of but two more descent lines (one male and one female), other things remaining the same, does not mend matters. The addition of four more descent lines does; and if that is effected by the simple expedient of halving the original divisions, then the reproduction period becomes doubled at one stroke. It is an interesting question whether another course of development is possible, by which the reproduction period is at first increased to three generations and does not jump from two generations to four; i. e., where the children of every kind of cross-cousins are allowed to marry. I shall return to that question below. Meantime we must just note that it is only of secondary importance whether the new divisions appear in fact only (as in the Southern Arunta), or whether they are at the same time distinguished by names.

ANALYSIS OF SOME "ABERRANT" KINSHIP SYSTEMS

It may be thought from the foregoing that it is possible to find for every Australian kinship system the divisional structure inherent in it, even in cases where the named divisions clearly do not correspond to the kinship structure or where the names for any kind of division have either never existed or been lost. One cannot, however, assume that this must necessarily be the case: only the analysis of at least a considerable number of sufficiently well-recorded kinship systems can reveal the existence and extent of such possible correlation.

We know enough of quite a number of kinship systems to be able to say that it is unlikely that they will all conform to either the Arunta or the Kariera type; though there are many which show certain affinities with the one or the other, these are often clearly "aber-

rant" in type, and we cannot exclude the possibility that they will in the final analysis prove to represent a type of their own. The first step obviously will be to enter the known kinship terms in a table constructed along the lines of either the Kariera or the Arunta system, whichever shows the closest affinities to the system in question, and then to define the nature of the "aberration." We may then find in some cases that certain kinship terms are "diagnostic" in the sense that they indicate in which direction the system has to be modified in order to reflect more closely the structure of the kinship system.

Since there will be no names with which to designate the divisions I have used the customary method of designating them by the letters of the alphabet. I have not, however, adopted the connotation used by "Oceania" because it is specially adapted for systems compatible with a moiety organization and cannot *a priori* be expected to suit all aberrant types.

For the next step, that of actually constructing a table better suited to express the peculiarities of the kinship system, we shall need some general guiding principles. Here one needs to be very careful to avoid introducing extraneous principles which may be present in the investigator's mind but not necessarily inherent in the subject matter. I have therefore confined myself to a few principles which emerge directly from the above analysis of the Arunta and Kariera systems, taking due note of the limitations arising from the specific features of those systems. Though rather more than mere rules of thumb, they should not, however, be taken for anything more than working hypotheses, and we shall just have to find out how far we can get with them. They may briefly be summarized as follows:

(1) The system must be self-contained and consistent; i. e., it must provide a sufficient number of descent lines

(a) to enable every member to select a spouse from his or her own generation;

(b) to allow space for every distinct relationship term;

and no term may appear more than twice (this only in the absence of sex differentiation) in any one generation.

(2) The system must be able to reproduce itself after a certain number of generations. This "reproduction period" need not in general be a simple power of two: it will, in general, be different for

the male descent lines on the one hand and the female descent lines on the other; the reproduction period for the system as a whole will be the lowest common multiple of the two.

(3) In the attempt to identify the divisional structure underlying the kinship terminology in the case where there are no named divisions capable of reflecting the latter, we must bear in mind that one and the same relationship term should only apply to members of one division; there may, however, be more than one relationship term applied to the members of some, but not of all, divisions.

(A special case of this general rule, which is of particular importance, concerns the "marriage" relation. If in any one generation members of, say, division A marry members of division H, the same must hold in any other generation where the two divisions appear; if our rule can be relied upon, that must also be expressed in the relationship terminology.)

(4) The repeated appearance of one and the same relationship term in the same descent line provides a clue to the length of the reproduction period (in M and F line it may seem to be larger than in the other lines owing to the use of special terms for B and Si, usually differentiating between elder and younger).

(5) Though in the Arunta and Kariera systems the same divisional names appear only in alternating generations, this need not be general; in particular, where we find that marriage is possible between adjoining generations we may suspect that all divisions (named or unnamed) appear in every generation, only differently distributed over the descent lines (as, e. g., in the simple moiety system).

(6) The rule of the Arunta and Kariera tribes that B and Si marry into the same division is also not general, and we must expect to find that its presence or absence has a considerable effect on the structure of the social organization.

I The Dieri System

The most recent and fullest record of the Dieri kinship system has been given by Prof Elkin.[19] It conforms, according to him, to

19 A. P. Elkin, *The Dieri Kinship System* (Journal, Royal Anthropological Institute, vol. 61, pp. 493-498, 1931).

the Arunta type, but has certain aberrant characteristics. There are no named subsections, and matrilineal moieties are the only named divisions. Prof Elkin notes the following discrepancies:

(a) Cross-cousins are classified with FM, kami. In the Arunta system they are usually classified with MMBW.

(b) The SS and SD of the MMB are classified with the FF and FFSi, instead of with MMB.

A study of Prof Elkin's table reveals further, similar, discrepancies. Every woman, with the sole and inconclusive exception of the M's line, is, or may be, classified with her DD and MM, and no man, with the exception of two ambiguous cases, is classified with his SS and FF. As we know, the reverse is true for the Arunta system. This is in line with the reversed role played by the sexes in the two tribes in other respects. The attempt to fit the Dieri kinship terms into an Arunta table with only the male and female column heads interchanged, suggested itself. This is done in Table 5; the structure is exactly the same as that in Table 2, except that every male descent line in the Arunta tribe represents a female descent line in the Dieri tribe.

The result is strikingly consistent, except for a few ambiguities in Prof Elkin's data. With regard to the designation of yenku in generation 0 as niyi and kaku Prof Elkin says that this is "much the same thing"; however, that would seem to me to be only true for a system based on cross-cousin marriage. Perhaps we may regard this as a pointer to the development of the prevailing practice from cross-cousin marriage. For generation 1↑ Prof Elkin gives the alternatives tidnara for taru and paiera for ngatamura; reference to generation 1↓ shows that there tidnara is "cross-cousin" to ngatamura and paiera

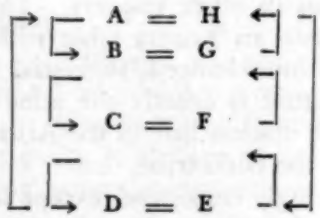
TABLE 6

Comparison of Arunta and Dieri Structures

	Arunta	*Dieri*	
Number of divisions	8	8	(unnamed)
Number of descent lines	8	8	
Reproduction period of male descent lines	2	4	
Reproduction period of female descent lines	4	2	
Reproduction period of the system as a whole	4	4	

"cross-cousin" to taru, and that ngatamura's marriage partner is taru. Assuming rule 3 above to hold good, I have therefore taken taru to be the normal designation for f_1 and m_2 in generation $1\uparrow$, consistent with the prohibition of cross-cousin marriage. I could not find any reference to these ambiguities in Prof Elkin's text; possibly they are due to alternative marriages reverting to the older cross-cousin marriage pattern.

If this explanation is satisfactory we can accept Table 5 as providing a straightforward solution to the problem of the Dieri kinship structure. Its characteristics as compared with the Arunta structure are shown in Table 6. Thus, instead of the "patrilineal couples" and "matrilineal cycles" of the Arunta, the Dieri have "matrilineal couples" and "patrilineal cycles," or, writing out the rule of marriage in the usual way:



Where, in the Arunta case, the arrows point to the woman's daughter, in the Dieri case they point to the man's son. The marriage rule is the same as in the Arunta tribe and the divisions reflecting the kinship structure are of the Arunta type, i. e., "subsections," though they exist only in fact and not in name.

II The Karadjeri System

The Karadjeri combine a system of four Kariera type divisions (sections) with a kinship system based on marriage with the MBD, who may, however, not also be the FSiD; it follows that there can-

TABLE 7

Structure of a System of Three Divisions

f_1	m_1	f_2	m_2	f_3	m_3
= B	A = C	B = A	C =		
→ C =	A ⇄ A =	B ⇄ B =	C ←		
A ⇄ A	B ⇄ B	C ⇄ C			
= B	A = C	B = A	C =		

not be exchange of "sisters" in marriage, and that the kinship terminology differentiates between the FSi and the MBW.[20] In other words, a brother and his sister may not marry into the same division, and the divisional names are not an accurate reflection of the kinship structure. At least two more descent lines, one male and one female, are required to provide lawful spouses for all the men and women within their own generation. The simplest system that will satisfy these requirements is shown in Table 7.

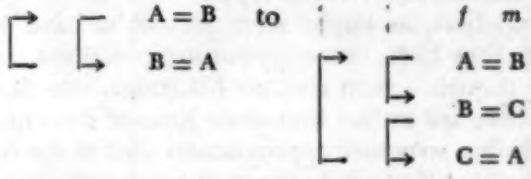
Whether such a system is, or has ever been, realized anywhere, is an open question; but it presents a certain theoretical interest, since it has obvious affinities with the simple moiety system.

TABLE 8

Structure of a Simple Moiety System

f_1	m_1	f_2	m_2
→ A = B ⇄ B = A ←			
= B ⇄ B = A ⇄ A =			

From the simple moiety system displayed in Table 8 it can obviously be derived by simply extending the marriage rule from



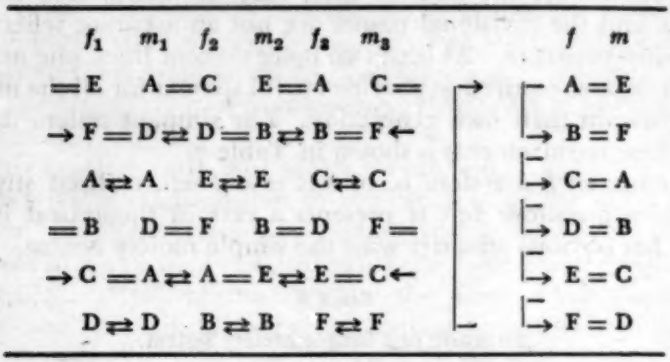
and introducing unilateral cross-cousin marriage (i. e., the marriage rule must no longer be read reciprocally).

Since the Karadjeri still possess the named divisions of Kariera type, however, it seems more likely that their kinship system is, or has once been, reflected in a system in which the same divisions appear not in adjoining but only in alternating generations, with one set of descent lines, let us say the males ones, consisting of "couples." This obviously necessitates at least six divisions which will have to be arranged as in Table 9.

20 Radcliffe-Brown, *The Social Organisation of Australian Tribes*, p. 93.

TABLE 9

Karadjeri Structure Based on Six Divisions



It is an interesting characteristic of this type of system that though the system as a whole reproduces itself after six generations (because the female descent lines contain all six divisions), the marriage relationship between any two descent lines (m and f) recurs after three generations, as in the three-divisional type (Table 7). Thus this system occupies in many respects an intermediate position between the Kariera and Arunta types.

If the Karadjeri, as might seem plausible, have ever possessed such a system, they have, however, not stopped there. As Prof Elkin has shown,[21] though a man reckons his immediate descent through three lines, there are in fact four male lines of descent in operation, so that the kinship structure approximates that of the Arunta.

The essential difference between the two systems remains, however, the unilateral cross-cousin marriage of the Karadjeri, which forbids a man to marry into the same division as his sister. With that in view, we may set out the Karadjeri kinship terms as in Table 10.

Thus the man in generation o whom we have assigned to division A addresses the members of the various divisions as follows:

A men and women: kalod (except B and Si, for whom he has special terms);
B men and women: bap (except FFSiS) (anomalous);

21 Elkin, *The Australian Aborigenes*, pp. 57-60, 70-72.

TABLE 10

Karadjeri Structure and Kinship Terms

			f_1		m_1		f_2		m_2		f_3		m_3		f_4		m_4		
2 ↑	=		H malp	⇄	H malp	=	A kalod	⇄	A kalod	=	F djam	⇄	F djam	=	C kamad	⇄	C kamad	=	
1 ↑	→	G yala		B "kaga"	⇄	B bap		E ibal	⇄	E ibal		D kaga	⇄	D berai		G ramba		←
0		F djalel		H djam		C kamad		A babal		H djam		F djalel		A marer		C kamad		
1 ↓		E wal	=	B bap		D berai	=	E wal		G yala	=	D kaga		B bap	=	G ramba		
2 ↓	=	H djam	⇄	H djam	=	A kalod	⇄	A kalod	=	F djalel	⇄	F djalel	=	C kamad	⇄	C kamad	=	

C men and women: kamad;
D men: kaga (including MB and WF); D women: berai (including M);
E men and women: ibal or wal (phonetic variants ?) (including F and FSi);
F men and women: djam (2↑), djalel (o and 2↓) (anomalous);
G men: ramba (including WMB); G women: yala (including WM);
H men and women: malp (2↑), djam (o and 2↓) (anomalous).

We see that the kinship terminology is consistent with the suggested divisional structure apart from three features marked above as anomalous. In division B the man whom we would expect to be called bap is addressed as kaga, although there is already a kaga, the MB, who belongs to division D, in that generation. A similar fusion of kinship terms exists between division H and F: though the use of the terms djam and djalel is consistent in generations 2↓ and o, in generation 2↑ djam takes the place of djalel for division F and its turn is replaced by malp. This application of the terms does not appear, however, to be quite consistent; for the man H in generation o for whom Prof Elkin's table gives the designation djam is referred to later in the text as malp.[22] Now we must remember that the Kariera-type divisions still exist in the Karadjeri tribe. The divisions H and F are in fact the two halves of one and the same Kariera-type division, and so are the divisions B and D. (Of this we can convince ourselves by amalgamating the female descent lines f_1-f_3 and f_2-f_4 respectively, as was done above, p. 536, for a similar problem. We may thus take this partial fusion of terms as an indication that the Karadjeri system as represented by Table 10 has been developed directly by the halving of the Kariera-type divisions, and that this development has taken place not so very many generations ago, so that it has either not yet been carried to its logical conclusion or the people are still liable to use the new terms sometimes in an ambiguous manner. Prof Elkin notes that a man may regard a woman who belongs to the same Kariera-type division as a "sister," even though she is not properly classified as such by the kinship system; that observation would seem to point to the same conclusion.

22 *Idem*, p. 72.

The Karadjeri system may thus be regarded as identical with the Arunta system save in one important respect: the marriage rule. All the characteristic indices are the same: the number of (actually functioning, though unnamed) divisions is eight, as in the Arunta case; there are eight descent lines, the reproduction period of the male descent lines is two generations and that of the female descent lines four; even that for the marriage relation is the same, i. e., four, in both cases. How, then, is the difference expressed in the table? It is evident, e. g., in the difference of the pattern formed by the marriage links between the descent lines. It is possible to arrange

TABLE 11

Comparison of Arunta and Karadjeri Structures

(a) *Arunta*								(b) *Karadjeri*							
A	C=F	H	C	A=H	F			E=B	D=E	G=D	B=G				
B=G	G=B	D=E	E=D					=H	H=A	A=F	F=C	C=			
=C	C	H	H=A	A	F	F=		G	B	B	E	E	D	D	G

the Arunta table differently, so that a somewhat different pattern results; but it is impossible to arrange it in such a way that the Karadjeri-type pattern appears; vice versa, the Karadjeri table cannot be so arranged as to yield an Arunta pattern. This is useful in practise when constructing the table for an uncharted kinship system, and a further proof for the mathematical regularity inherent in kinship systems.

The same difference is, of course, also expressed in the different order of the descent of the divisions in the female lines: E → F→ G → H in the Arunta, H → G→ F → E in the Karadjeri case.

III The Systems of the Larakia, Tiwi, Iwaidji, and Worgait

Lists of kinship terms for these four tribes have been recorded by Spencer.[23] Prof Radcliffe-Brown[24] says with regard to the Larakia that "their kinship system would seem to have been of the Kariera

23 Spencer, *Native Tribes of the Northern Territory of Australia.*
24 Radcliffe-Brown, *The Social Organisation of Australian Tribes*, pp. 85-86.

type with perhaps some special modifications" and with regard to the Worgait he says that Spencer's list "suggests a system of Kariera type"; that of the Tiwi he describes as "of somewhat aberrant type." A comparison of Spencer's terms for the four tribes shows that they have much in common; in particular, while certain terms definitely suggest cross-cousin marriage, others imply only unilateral cross-cousin marriage. Furthermore, there are, in all lists except that for the Tiwi, terms which are applied to members of adjoining generations. (Another anomaly is the use by a Worgait man of the same term [balluk] for his yB or Si and his SiH, and by a Worgait woman of the same term [niya] for her son and that of her HSi; this is paralleled in the other tribes by similar anomalies which, however, occur only in the lists of terms applied by women. This type of anomaly can obviously not be reconciled with any rule of exogamy. We can but note it here in the hope that some day it may find an explanation; I have omitted it from the tables since it cannot contribute to the elucidation of the main features of the kinship structure.)

Spencer records[25] that the totem groups are divided between moieties with paternal descent of the totem in the Larakia and Worgait tribes: he gives no names for the moieties. The Iwaidji[26] have three named divisions linked by a peculiar marriage rule and composed of totemic groups with descent in the female line; a similar threefold division has been found on Melville Island.[27]

All these facts taken together seem to indicate a common departure in all the four tribes from the normal Kariera type in the same direction, i. e., towards a system with unilateral cross-cousin marriage and either three or six divisions, as described on p. 546 f. Tables 12 and 13 enable us to make a comparison between the two types for the four tribes simultaneously. As we see, the attempt to fit the terms into a Kariera type table leads to the cramming of many positions in the table with duplicate terms which in each case refer to a different relative in descriptive terms (marked *). These contradictions are to a very large extent removed in Table 13 with its six descent lines. None remain in the Larakia case, where there were four in Table 12; for the Worgait they are reduced from six to

25 Spencer, *op. cit.*, p. 16c.
26 *Idem*, p. 46.
27 See Radcliffe-Brown, *The Social Organisation of Australian Tribes.*

TABLE 12

Kinship Terms of (1) Larakia, (2) Worgait, (3) Iwaidji, (4) Tiwi fitted into the Kariera-type Structure

	f_1	m_1	f_2	m_2
3 ↑	→ C	= B	⇄ B	= C ←
	1 kudung	nimerk	almerk	—
	2 kallung (ngungaran,** djemming)*	djemming	ngayi	—
	3 kamu (nandulang)*	—	ngawin	—
	4 yangaringa	intamilli	—	—
2 ↑	= A	⇄ A	= D	⇄ D =
	1 allap**	nurdla (ngoak)	alladik	—
	2 —	guga	ngungaran** (mukkung)*	nirung
	3 wi-wi	wonwu	angban (pappam)*	wullu-pullu (pappam)*
	4 namaninga	mau-win-inni	yamoaniya (auamma)*	jaraminni
1 ↑	→ C	= B	⇄ B	= C ←
	1 kudung	nurdung	allap**	unya (nugunyi)*
	2 kallung	boppa (koppa)*	ngaiwan	kukka (naidjinga)*
	3 kamu	purni	ngawin	gadja (kanyung)* **
	4 yangaringa	narangani (namiranni)*	yunganpuranna	illimani (ngauamurúi)*
0	= A	⇄ A	= D	⇄ D =
	1 unmull (nguluk)	nurdla (ngoak)	alladik	imurburra (ngan)*
	2 ngamballuk (balluk)	ngambulla (balluk)	ngungaran	ngunga
	3 wulko (munburtj)	wulko (munburtj) (kanyung)* **	angban	kumbala
	4 impunga (imbokka)	yayuwinni	yamoaniya	jauaminni
1 ↓	→ C	= B	⇄ B	= C ←
	1 kudung (allgunyi)*	nimerk	almerk	nugunyi
	2 kallung	niya	ngaiyi	naidjinga
	3 kamu (kanyung))* **	ngawin	ngawin	kanyung**
	4 yangaringa (ngua-marinya)*	namiranni	ngauraninga	ngauamurdi
2 ↓	= A	⇄ A	= D	⇄ D =
	1 —	ngoak	allitmitt (alladik)*	mitt-mitt
	2 —	guga	ngungaran (ngaidjim)*	—
	3 —	—	angban	—
	4 —	yamurdi	yamoaniya (mananya)*	—
3 ↓	→ C	= B	⇄ B	= C ←
	1 —	nimerk		—
	2 —	—		—
	3 —	wi-wi	wi-wi	—
	4 —	ngangyurminni	yamparinna	—

* Terms which suggest splitting up of the descent lines.
** Terms which occur in adjoining generations.

Kinship Terms of (a) Lardiral (b) Wor
Bred into the Murngin

		f_2	m_1	$\backslash m_2$					
3 ↑	→		C	C	=	=	B	B	⇆
1	kudung			nimerk					Mark
2	kallung	(ngungaran,** djemming)*		djemming					ing
3	kamu	(nandulang)*		——					ning
4	yangaringa			inamilli					—

2 ↑	=	=		A	D	⇆	⇆	A	D	=
1	allap**					nurdla (ngoak)				Mitk
2	——					guga				ngaran**
3	wi-wi	*(pappam)				wonwu-pulu				nan
4	namaninga					inni-nanpuwin-inni				anaiya

1 ↑	→		C	C	=	=	B	B	⇆
1	kudung					*(ngungi) nendung			**Mi
2	kallung					*(naidjinga) dobpa (kobpa)*			nang
3	kamu	** (kanyung)*				pipini			ning
4	yangaringa	(ngaumurdi				nanangani (namirrani)*			anpur

0	=	=		A	D	⇆	D	A	=
1	umuli (ngulik)							nurdla (ngoak)	Mitt
2	ngambulluk (balluk)							ngambulla (balluk)	ngaran
3	wullo (munburri)							wullo (munburri)	nan
4	impunga (imbokka)							nanangani	anaiya

(kanyung)* **

1 ↓	→	→	C	C	=	=	B	B	⇆
1	kudung (allguayi)*					iyamumk			Mark
2	kallung					djemming			ing
3	kamu (kanyung)*					***ngungaran			ning
4	yangaringa (ngau-					nanangani			ganings
	murdi)*								

2 ↓	=	=		A	D	⇆	A	D	=
1	——					nogoak			Mailtt (alladik)*
2	——					guga			ngaran (ngaidjim)*
3	——					——			nan
4	——					yamurdi			anaiya (mananya)*

3 ↓	→		C	C	=	=	B	B	⇆
1	——					ninerk			
2	——					——			
3	——					wi-wi			wi
4	——					ngangyurninni			anninga

* Terms which suggest splitting up of the descent line.
** Terms which occur in adjoining generations.

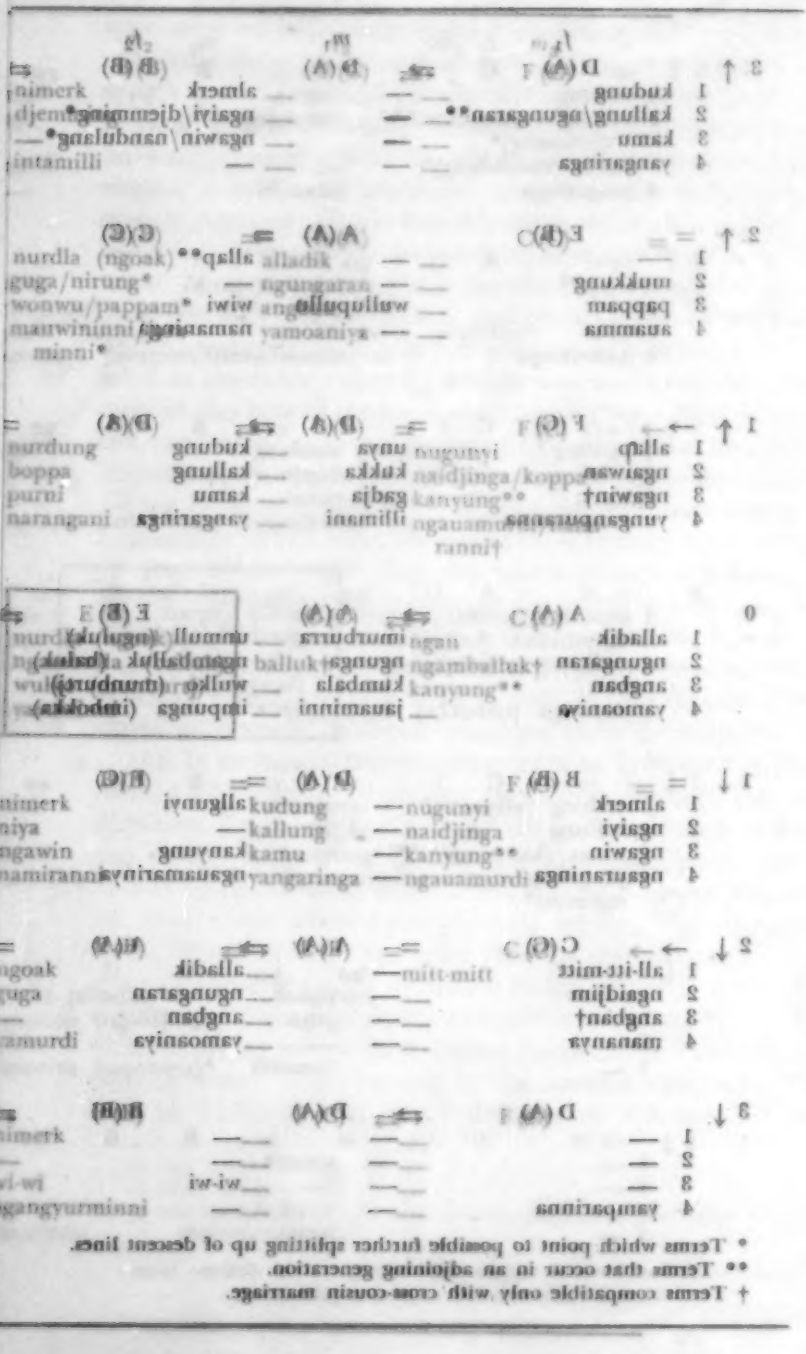
TABLE 13

Kinship Terms of (1) Larakia, (2) Worgait, (3) Iwaidji, (4) Tiwi with Six Lines of Descent

	f_1	m_1	f_2	m_2	f_3	m_3
3 ↑	D (A) ⇄	D (A)	B (B) ⇄	B (B)	F (C) ⇄	F (C)
1	kudung	—	almerk	nimerk	—	—
2	kallung/ngungaran**	—	ngaiyi/djemming*	djemming	—	—
3	kamu	—	ngawin/nandulang*	—	—	—
4	yangaringa	—	—	intamilli	—	—
2 ↑	= E (B)	A (A) =	C (C) =	E (B)	= A (A)	C (C) =
1	—	—	allap**	nurdla (ngoak)	alladik	—
2	mukkung	—	—	guga/nirung*	ngungaran	—
3	pappam	wullupullu	wiwi	wonwu/pappam*	angban	—
4	auamma	—	namaninga	mauwininni/jara-minni*	yamoaniya	—
1 ↑	→ F (C)	= D (A) ⇄	D (A) =	B (B) ⇄	B (B) =	F (C) ←
1	allap	unya	kudung	nurdung	—	nugunyi
2	ngaiwan	kukka	kallung	boppa	—	naidjinga/koppa*
3	ngawin†	gudja	kamu	purni	—	kanyung**
4	yunganpuranna	illimani	yangaringa	narangani	—	ngauamurdi/namiranni†
0	A (A) ⇄	A (A)	E (B) ⇄	E (B)	C (C) ⇄	C (C)
1	alladik	imurburra	unmull (nguluk)	nurdla (ngoak)	—	ngan
2	ngungaran	ngunga	ngamballuk (baluk)	ngambulla (balluk)	balluk†	ngamballuk†
3	angban	kumbala	wulko (munburtj)	wulko (munburtj)	—	kanyung**
4	yamoaniya	jauaminni	impunga (imbokka)	yavuwinni	—	—
1 ↓	= B (B)	D (A) =	F (C) =	B (B)	= D (A)	F (C) =
1	almerk	—	allgunyi	nimerk	kudung	nugunyi
2	ngaiyi	—	—	niya	kallung	naidjinga
3	ngawin	—	kanyung	ngawin	kamu	kanyung**
4	ngauraninga	—	ngauamarinya	namiranni	yangaringa	ngauamurdi
2 ↓	→ C (C)	= A (A) ⇄	A (A) =	E (B)	⇄ E (B)	= C (C) ←
1	all-itt-mitt	—	alladik	ngoak	—	mitt-mitt
2	ngaidjim	—	ngungaran	guga	—	—
3	angban†	—	angban	—	—	—
4	mananya	—	yamoaniya	yamurdi	—	—
3 ↓	D (A) ⇄	D (A)	B (B) ⇄	B (B)	F (C) ⇄	F (C)
1	—	—	—	nimerk	—	—
2	—	—	—	—	—	—
3	—	—	wi-wi	wi-wi	—	—
4	yamparinna	—	—	ngangyurminni	—	—

* Terms which point to possible further splitting up of descent lines.
** Terms that occur in an adjoining generation.
† Terms compatible only with cross-cousin marriage.

Kinship Terms of (1) Lardil, (2) Wa
with Six Lineal El



† Terms compatible only with cross-cousin marriage.
•• Terms that occur in an adjoining generation.
• Terms which point to possible further splitting up of descent lines.

four or possibly two, for the Iwaidji from six to two, and for the Tiwi from five to two. The explanation of terms that occur in adjoining generations (marked **), which is impossible in a Kariera type system, is easy to give from the point of view of a three-divisional system (the letters denoting these divisions are given in parentheses in Table 13). On the other hand, Table 13 makes it clear that certain terms (marked †) can only be explained on the basis of cross-cousin marriage: there are none in the Larakia system, two in the Worgait and Iwaidji systems respectively, and one in the Tiwi system. This feature is also marked in the kinship terms applied by the women of the three last named tribes. Moreover, Table 13 reveals a number of serious gaps in Spencer's lists; for a large number of classificatory terms he gives only one descriptive term corresponding to each, so that it is impossible to say which differently described relations may be classified under the same term, and not in one instance has he recorded the classificatory term for such an important relative as the father's sister or her daughter. This makes any attempt to resolve the remaining contradictions (marked *) in Table 13 by the introduction of further descent lines, e. g., in a Karadjeri system, highly speculative. I thought it necessary, nevertheless, to check on this possibility for the Tiwi, Iwaidji, and Worgait, and have satisfied myself that in the case of the Tiwi a distinct improvement would result so far as the terms are concerned which have been recorded, but that the agreement in the other two cases is not so good.

In answer to the question of the type of kinship system to which the systems of the four tribes should be assigned, we may sum up this analysis as follows:

(a) *Larakia.* The recorded kinship terms agree very well with a system of six divisions as represented in Table 13, and I shall in future refer to this system as the *Larakia type* (with the proviso that if the existing gaps are ever filled, it may possibly have to be assigned to a more complex, e. g., a Karadjeri type system). There is only one feature which is not compatible with this type: the use of the term allap for both the wife's mother and the mother's mother, i. e., for two persons in adjoining generations. This is, of course, not consistent with a Kariera type, but is compatible with a three-divisional

system. I think it very possible, therefore, that the Larakaia type has not developed from a Kariera type at all, but from a simple moiety system via a three-divisional system as outlined on p. 546 f.

(b) *Worgait and Iwaidji.* Though the bulk of the terms fits in well enough with the Larakia type, several terms are recorded the use of which is only compatible with cross-cousin marriage. All we can say, therefore, is that the trend of development is the same as in the Larakia instance, but that possibly the Worgait and Iwadji have not gone quite so far in eliminating cross-cousin marriage. A similar position was found by Elkin[28] on the Forrest and Lyne Rivers in northern Kimberley; the latter system would seem to have some of the essential features of the Larakia type, so far as one can judge from Prof Elkin's brief report. In the case of the Worgait and Iwaidji, too, the existence of terms (marked * *: ngungarang and kanyung) that are applied to members of adjoining generations are an indication that the development has not gone via a Kariera type, but from a simple moiety type via a three-divisional one. In the simple moiety organization, marriage, if it takes place within the same generation, is, of course, of the cross-cousin type.

(c) *Tiwi.* The Tiwi system may be said to conform better to the Larakia than to the Kariera type, and the possibility that it belongs to the Karadjeri type cannot be excluded. Though no terms are recorded which are applied to members of adjoining generations equally, the existence of three divisions (of totemic significance) makes it probable that in this case, also, a Kariera type system has not been a stage in the development of the Tiwi system.

The possible existence in northern and northwestern Australia of kinship systems with symmetry properties based on the factor three and not on a simple power of two is of considerable interest.

IV The Kakudu System

A most interesting type of organization, full of anomalous features, was discovered by Spencer[29] among the Kakadu, who have no named divisions of any kind. The most remarkable feature of their

28 A. P. Elkin, *Social Organization in the Kimberley Division, North-Western Australia* (Oceania, vol. 2, pp. 296-333, 1931-32), p. 306; cf. also Radcliffe-Brown, *The Social Organisation of Australian Tribes*, p. 87.

29 Spencer, *Native Tribes of the Northern Territory of Australia.*

marriage organization, which arrested his attention, is the fact that on the death of her husband a woman may pass as wife to a man who belongs to the generation immediately junior to her own and who may be either her "son" or her husband's sister's son; her own son appears to be excluded, but her husband's son by another woman may become her husband.

As Spencer remarks, this is contradictory to the normal Australian practice which prohibits marriage between members of adjoining generations; but we have now evidence of kinship systems where such marriages may occur and be compatible with the general kinship structure. The Ungarinyin, e. g., possess a system which permits marriage of a man with his wife's brother's daughter.[30] Outside Australia there are kinship systems compatible with similar types of marriage, e. g., in America, where the Choctaw system permits a man to marry his mother's brother's wife (analogous to one of the types of Kakadu marriage), and the Omaha system allows a man to marry his wife's brother's daughter (as the Ungarinyin system does).[31]

The simplest exogamous system which erects no bar to marriage into an adjoining generation is, of course, the dual organization into two intermarrying moieties. Table 14a illustrates that where in the dual organization the son belongs to his father's division, he may, for that reason, marry his "mother" or his wife's brother's daughter,

TABLE 14

Moiety Structure

(a) *Patrilineal Descent*	(b) *Matrilineal Descent*
f m f m	*f m f m*
→ A = B ⇄ B = A ←	→ A = B ⇄ B = A ←
= B ⇄ B = A ⇄ A =	= A ⇄ A = B ⇄ B =
→ A = B ⇄ B = A ←	→ A = B ⇄ B = A ←

30 Elkin, *The Australian Aborigenes*, pp. 67-70.

31 A. R. Radcliffe-Brown, *The Study of Kinship Systems* (Journal, Royal Anthopological Institute, vol. 71, pp. 1-18, 1941).

for both belong to the other moiety. The mother's brother's wife, on the other hand, belongs to his own division and he cannot marry her without infringing the law of exogamy. In the other type of dual division, where the son belongs to his mother's moiety (Table 14b) the opposite obtains. Thus, even more remarkable than the marriage into an adjoining generation is the fact that the Kakadu have no objections to either type of marriage: one which is only compatible with patrilineal, and the other which is only compatible with matrilineal moieties.

This contradiction is to some extent resolved in the three divisional system, where brother and sister marry into different divisions (cf. Table 7). In such a system, marriage with the mother's brother's widow at least does not violate the basic law of exogamy, even though she does not belong to the man's "proper" marriage division.

When we examine the kinship terminology, however, we find that none of these systems is compatible with it. The cross-cousin is distinguished from the wife, which excludes the simple moiety organization; the sister's children and the wife's brother's children are called by the same term, which implies that brother and sister marry into the same division and excludes the three-divisional organization. In the parents' generation there are terms for seven distinct relatives; hence we have to have at least eight descent lines, four male and four female. But if we turn to the Arunta system we are again in for a disappointment: the term pulupurlumba, which is applied by a man to his FFF as well as to his SSS and his MMM and by a woman to her MMM and her DDD, militates against it. This terms appears to imply a periodicity of three for both a man's and his sister's line. In all the systems we have investigated hitherto the reproduction period of the descent lines stood in a simple arithmetical relation to the number of the descent lines; the simultaneous occurrence of a reproduction period of three with eight descent lines is sufficiently interesting to warrant an investigation into the possibility of constructing such a system and its structural features.

The minimum number of divisions with which such a system can be built up is obviously twelve: this number is sufficient for the construction of a table consistent with the general requirements which a kinship system should satisfy if it is at all systematic (see

TABLE 15

Kakadu Structure

		f_1		m_1		f_2		m_2		f_3		m_3		f_4		m_4	
3	↑	=	J	⇄	J		A pulupur-lumba	⇄	A pulupur-lumba	=	D	⇄	D padierli		G	⇄	G	=
2	↑	→	K		H	=	B kaka		E kaga	⇄	E		B yimbain-mungo	=	H		K	←
1	↑		L ngaila	=	C jaidja	⇄	C koiyu	=	L papa		F komapa	=	I keerli	⇄	I keerli	=	F	
0		=	J kopeinga (f)	⇄	J kopeinga		A makorngo illaberri	⇄	A baranga illaberri	=	D ngunko-mukali	⇄	D muraguji		G	⇄	G	=
1	↓	→	K		H	=	B mapa		E ngoorn-berri	⇄	E ngugorn-berri		B mapa	=	H		K parieli	←
2	↓		L	=	C	⇄	C	=	L naburno-bunong		F mapeinga	=	I	⇄	I	=	F	
3	↓	=	J	⇄	J		A pulupur-lumba	⇄	A pulupur-lumba	⇄	D	⇄	D		G	⇄	G	=

above, pp. 543-544) while reflecting the principal peculiarities of the Kakadu kinship terminology. It is presented in Table 15.

It is interesting to compare the normal marriage rule of such a system, i. e., that which obtains within the same generation, with that of the Arunta system. The latter can be expressed by describing a man's wife as his MMBDD; the former by describing her as the FFSiDD. Or, to put it in another way, where the Arunta man marries the daughter of his father's male and his mother's female cross-cousin, the Kakadu man would marry the daughter of his father's female and his mother's male cross-cousin. Thus, despite the obvious formal differences between the two systems, the relationships created by them are in a sense homologous though opposite in their sex-notation.

Whether in fact this is the marriage rule in the Kakadu tribe we unfortunately do not know. The anomalous marriages which Spencer noted appear only to apply to widows, and then only where no younger brother of the husband is available; in what relationship a woman's first husband stands to her, Spencer does not say. Moreover, as in the cases investigated in the previous paragraph, though Table 15 accommodates the Kakadu relationship terms with a minimum of contradictions, there are a number of gaps; apparently the record is far from complete. It is therefore impossible to say whether the system represented in the table is an accurate reflection of the Kakadu kinship system: all we can claim is that it is the nearest approach to a system that can be detected in the Kakadu kinship terminology so far as it has been recorded. The difficulties encountered in the systematic interpretation of kinship systems serve to underline the importance of recording kinship terms not only as fully as possible, but also with as many descriptive interpretations of the same classificatory term as can be secured.

Lastly, it must be noted that it appears to be impossible to reconcile with the kinship terminology the rule according to which a widow, in the absence of a younger brother of her deceased husband, passes as wife to one of his sons, and in the absence of a son also, to one of his sisters' sons. In the system suggested in Table 15 neither belongs to the division into which she may properly marry; a simpler system cannot accommodate the relationship terms. The number of relationship terms recorded is insufficient to warrant the attempt at

solving the problem by splitting the descent lines up further. What is more, there are a number of terms which point to a simpler, not to a more complex system, so that even if more information were available, it is difficult to see how the attempt could succeed in resolving the existing contradictions without creating new ones.

It appears that Kakadu custom and kinship terminology cannot be fitted into one harmonious whole and that, as in some of the cases investigated above, their inherent contradictions are evidence of social change. This may have been a process protracted over many generations, the emphasis gradually shifting from one marriage rule to the other, the older custom being resorted to in the case of the re-marriage of widows. Spencer does not specifically say so, but it appears from his account that the anomalous marriage rules only apply to widows. In this connection a passage is significant where he mentions that the initiative in arranging a woman's first marriage is taken by her father, but that the arrangements for her re-marriage after her husband's death are made by a different relative, her mother's brother. The detailed instances which he gives further confirm the view that the marriage of a widow to her husband's son reflects an older custom than the present one, and her marriage to a sister's son of her husband possibly an older one still.

V The Ungarinyin and Related Systems

Another system with unusual and remarkable features is that of the Ungarinyin, which has been discovered and described by Prof Elkin.[32] The descent lines in this system receive prominence through the application of the same term to all members of a male descent line, irrespective of generation. Though this is in marked contrast to the system of the Kariera or Arunta, which have for long been taken as representative of the "normal" type of Australian kinship system, this vertical structure of the Ungarinyin kinship system does not stand all by itself. A similar structure is displayed in the kinship terminology of the Murngin and Yaralde in Australia, and in America there are several systems, grouped by Prof Radcliffe-Brown[33] under two types: the Choctaw and the Omaha. These

32 Elkin, *The Australian Aborigenes*, pp. 67-70; *Social Organization in the Kimberley Division*, pp. 312-317.

33 Radcliffe-Brown, *The Study of Kinship Systems*.

systems differ among themselves by the number of descent lines, and by the emphasis in some being laid on the female and in others on the male descent lines.

The simplest system of a "vertical" type is obviously the simple

TABLE 16

"Vertical" Systems with Two to Five Divisions

Marriage Rule	*Kinship System (male lines vertical)*
f *m* A = B B = A	f_1 m_1 f_2 m_2 →A = B⇄B = A← = B⇄B = A⇄A =
A = B B = C C = A	f_1 m_1 f_2 m_2 f_3 m_3 →A = B⇄B = C⇄C = A← B⇄B C⇄C A⇄A = C B = A C = B A =
A = B B = C C = D D = A	f_1 m_1 f_2 m_2 f_3 m_3 f_4 m_4 →A = B⇄B = C⇄C = D⇄D = A← B⇄B C⇄C D⇄D A⇄A C B D C A D B A = D B = A C = B D = C A =
A = B B = C C = D D = E E = A	f_1 m_1 f_2 m_2 f_3 m_3 f_4 m_4 f_5 m_5 →A = B⇄B = C⇄C = D⇄D = E⇄E = A← B⇄B C⇄C D⇄D E⇄E A⇄A C B D C E D A E B A D B E C A D B E C A = E B = A C = B D = C E = D A =

moiety type, or dual organization. We have already seen above (p. 547) how a system of three divisions and six descent lines, with the same vertical character, can be derived from this by adding the new division and prohibiting brother and sister from marrying into the same division. This process can obviously be extended and vertical systems with any number of descent lines be created in this way (Table 16).

In order to obtain the corresponding systems with vertical female lines it is, of course, only necessary to interchange the column heads.

Whether this has been the actual historical process by which any such system has been evolved is quite another question; but the principle involved is so simple that at least it makes the existence of these vertical systems and their connection with the dual organization particularly easy to comprehend. This holds especially for the seemingly so-irregular system of the Murngin with its seven male descent lines. From the point of the principles outlined above (pp. 543-544) systems of this type are simply characterized by the reproduction period of one generation for male descent lines, and a reproduction period equal to the total number of divisions for the female lines (or vice versa), the latter being also equal to the reproduction period for the system as a whole and that for the marriage relation betwen any two descent lines. It is further characteristic for such systems that unlike the "normal" types, all the divisions appear in every generation, and as a consequence, they set in themselves no bar to marriage into an adjoining generation. Such marriages are, in fact, permitted in the Ungarinyin tribe.

The Ungarinyin problem is, however, complicated by the fact that the vertical principle is not applied to all male descent lines without exception. Prof Elkin notes that in a man's own line the terms alternate between the generations: a "brother" is nolingi, a "father" or "son" is idje; and there is another descent line in which the same terms alternate in such a way that the generation of nolingi is provided with idje and vice versa. In the notes to his table[34] he indicates that these terms (including the analogous lalingi for sister) are the only ones which show generation levels. However, if I am interpreting his table at all correctly, there are listed there two other

34 Elkin, *The Australian Aborigenes*, p. 69.

descent lines which correspond with one another in exactly the same way, namely malengi-wuningi. Every wuningi is the son of a malengi and vice versa, and there is a wuningi and a malengi for every generation.

But this is not all. If we attempt to trace the descent in the female lines we come up against some significant gaps and contradictions. Prof Elkin's tables do not give us the terms applied to the parents of mariengi, the wife of malengi; but starting with her, we get the following sequel: mariengi → wuningi → kaiingi → ngadji → lalingi → malengi → wolmingi → maringi → amalngi; from the last named, however, we get back, not to wuningi, but to malengi, thus cutting the sequence short. Again, according to his Table B for the wife's descent, her mother is the daughter, not of malengi as we would expect from the data of Table A, but of wuningi.

If we were to attempt to fit these various contradictory features of the terminology into one single system we would get a very strange result indeed: a system in which half the male descent lines have a period of two generations and the other half a period of one; and half the female descent lines a period of four and the other half a period of eight. From the purely mathematical standpoint such a system can, of course, be constructed, and it could be operated in practise. But it would lead to a most unusual consequence: the relationships of the members of one set of descent lines to the other members of the tribe would obey different rules from those to which the members of the other set are subject. "*Quod licet Jovi non licet Bovi.*" This is contrary to everything we know about classificatory relationship systems anywhere, and as Prof Elkin's data contain no hint of such a state of affairs in the Ungarinyin tribe, we need not pursue this possibility seriously.

The alternative explanation is that the Ungarinyin system is again one which is in process of transition, and contains within itself elements which testify to a type of organization which has already been left behind, and others would indicate to us in which direction the development is tending.

It appears tempting to trace the development of the Ungarinyin system back to one with six males and six female descent lines by amalgamating the two pairs of lines in which the same terms alternate: there is, however, nothing in the female descent lines which

suggests a periodicity of six generations. The equivalence of the terms malengi/wuningi and lalingi/amalngi/mariengi rather suggests a period of four. Now the vertical system with four divisions (the third in the series of Table 16) permits all the unusual marriages which occur in the Ungarinyin tribe. With this system we obtain the equivalences of relationship terms as shown in Table 17. Thus

TABLE 17

Equivalence of Kinship Terms among the Ungarinyin

				f	*m*		
lalingi	/ amalngi	/ mariengi:	→	A = B: malengi	/	wuningi
	malengi	/ wuningi:		→ B = C: kaiingi	/	wolmingi
	wolmingi	/ kaiingi:		→ C = D: kandingi	/	waiingi
	maringi	/ ngadji:		→ D = A: idje	/	nolingi

it appears that the present Ungarinyin system has developed through the splitting up of the original four divisions into eight, with a corresponding doubling of the number of descent lines from eight to sixteen. We note that Table 17 assigns both the mother (ngadji) and the wife of A (maringi) to the same division; this is, indeed, the case in every vertical system. But the Ungarinyin man is not supposed to take a wife from the group to which his mother belongs. We will, therefore, not go far wrong if we attribute this splitting up of the groups to the desire to separate these two groups. The important point to note is that this separation cannot be achieved by a vertical system. Hence the Ungarinyin system is only superficially still vertical; in fact the differentiation between alternative generations in own (nolingi/idje) and sister's husband's (wuningi/malengi) line reflects the true character of the system and reveals it as one in which two divisions alternate between the generations of the male descent lines. But the terminology has not followed this change in every particular. It is apparently more important for a man to be able to distinguish between the divisions of his own wife and mother than to separate, e. g., his waiingi's or kaiingi's wife and mother. From the woman's point of view it is more important to dis-

tinguish between her husband and her son than to carry this distinction into lines with which she is less intimately related.

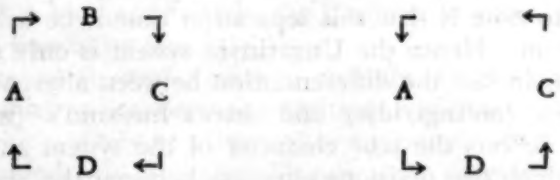
We know a case, in a sense analogous, in the Mara system.[35] The Mara possess four named divisions, each of which does not, however, represent a section in the Kariera sense but a vertical male descent line. If we attempted to write this system out in table form we would get a vertical system of the type displayed in Table 18. Here

TABLE 18

Mara Structure

f_1	m_1	f_2	m_2	f_3	m_3	f_4	m_4
C	A = B		D	A	C = D		B
D =	A ⇄	A =	D	B =	C ⇄	C =	B
= A	⇄ A	D	⇄ D =	C	⇄ C	B	⇄ B =
→ B	A	C	D	⇄ D	C	A	B ←
C	A = B		D	A	C = D		B

we would note the following anomalies: (a) though a man and his son nominally belong to the same division, they do not marry into the same division; (b) though there are only four divisions, the marriage pattern is obviously of the Arunta type; (c) there are two "matrilineal cycles," one in which the sequence of the generations runs clockwise and one in which it runs anti-clockwise:



so that it is impossible to tell merely from the division to which a given woman belongs what division her daughter ought to belong to.

We are clearly lead to conclude that the members of division A

35 Spencer, *Native Tribes of the Northern Territory of Australia.*

in generation o are in fact, though not in name, distinguished from those in the adjoining generation, and so for all other divisions. If we carry the distinction into the table by marking the divisions of a particular generation and all alternating ones with a dash, treating A and A′ as two independent divisions, our table obviously becomes identical with that for the Arunta system. As is well known, Spencer arrived at this conclusion on the basis of the explanations given to him by a native. This instance serves therefore to strengthen our confidence in the method of analysis here employed.

The fact that the Arunta-type character of the Mara system is veiled by the vertical arrangement of the named divisions in the male lines may be taken as an indication that this system has not developed through a Kariera-type stage, but either directly from a moiety- or via another vertical system.

In this connection it is interesting to note that the transition from a vertical system to one in which two divisions alternate between the generations in the male descent lines can be effected in a particular and simple way at any stage of the series of vertical systems (Table 16), provided the number of divisions is even, as follows:

If we write the marriage rule in a vertical system of, say, four divisions, in a somewhat unusual way by arranging the divisions in a square and indicating by a double arrow the direction in which the male marriage partner is to be found we get the picture shown in Figure 1. The outer bent arrow leads from the division of the mother to that of her daughter; the dots on the inside of the letters indicate that the son returns to the division of his father, which rests in the vertical nature of the system. If we now simply reverse the

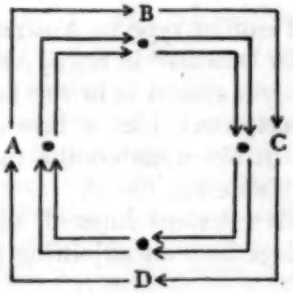


FIG. 1

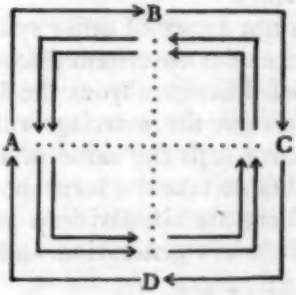


FIG. 2

direction of the double arrows, i. e. assign to woman A, not man B, but man D as husband and so on (see Fig. 2), we obtain a system with "patrilineal couples" (A, C) and (D, B) as indicated by the dotted lines in Figure 2.

Since the number of descent lines is in both cases four, we have in fact four couples, i. e., two pairs of descent lines in which the same divisions alternate. Written out in full table-form we get the situation displayed in Table 19. That is, the male descent lines

TABLE 19

Four Male Descent Lines with Mixed "Couples"

f_1	m_1	f_2	m_2	f_3	m_3	f_4	m_4
A = D		B = A		C = B		D = C	
= B	⇄ B =	C	⇄ C =	D	⇄ D =	A	⇄ A =
→ C	D	⇄ D	A	⇄ A	B	⇄ B	C ←
D	B	A	C	B	D	C	A
A = D		B = A		C = B		D = C	

exhibit just that characteristic which Elkin recorded in the Ungarinyin tribe: a mixture of terms between pairs of descent lines (malengi-wuningi and wuningi-malengi; nolingi-idje and idje-nolingi). Of course, as we have seen, the number of descent lines in the Ungarinyin system is really sixteen, so that if it were worked out to its logical conclusion it would have four pairs of "mixed" male descent lines.

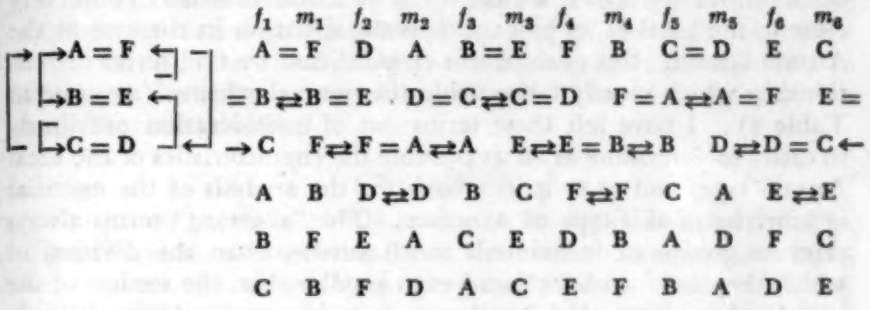
I am not aware of other systems of similar type in Australia but a parallel case is the system discovered by Deacon[36] in north Ambrym. The chief difference from the Ungarinyin system is in the fact that in this system the marriage rule is reciprocal, i. e., a brother and sister marry into the same division. In my notation the marriage rule and table take the form shown in Table 20.

As there are six divisions and twelve descent lines all divisions appear in every generation and marriage into an adjoining genera-

36 Deacon, *The Regulation of Marriage in Ambrym.*

TABLE 20

Structure in North Ambrym



tion is possible, as was observed by Deacon. As the female descent lines contain only one half of the divisions each, the system is compatible with female moieties (batatun); the six male lines are "mixed" in pairs (bwulem): F–B, A–D, and E–C, as in the Ungarinyin system.

This is interesting from the point of view of the possible relationship between the Australian and other kinship systems and their historical connection with the dual organization (see the discussion of Deacon's paper). There may be at least a possibility of a closer parallelism in the development of the Australian kinship systems and those of Ambrym (perhaps also the Melanesian systems) than was formerly thought to be the case.

VI "Aberrant" Arunta Relationship Terms

In all the systems analyzed above there are terms not consistent with the system to which, in the main, the kinship terminology conformed and in which one must, therefore, recognize symptoms of change. In the conditions of undisturbed aboriginal society in Australia social change will often have been very slow; in the case of the relationship systems relative stability is facilitated by the reproductive character of the systems themselves. Nevertheless, changes there have been, as in all other forms of life and society, though it may be fruitless to try and describe them in form of exact historical

data. I believe it to be most doubtful whether we shall ever discover a completely harmonious system of relationships, a "pure" case so to speak, unadulterated by the traces of the historical trends that are at work within the given society.[37] A practical case may come very close to the ideal of its type: such is the situation in the case of the Arunta system. But even in this classical case we find terms of relationship which clearly fall outside the general scheme (see note to Table 2). I have left these terms out of consideration previously in order to determine as far as possible the characteristics of the ideal Arunta type, and so to gain a basis for the analysis of the essential symmetries of this type of structure. The "aberrant" terms always refer to groups of individuals much smaller than the division of which they are members,[38] and even smaller than the section of the membership of that division that appears in a particular position in the table. Thus the Panunga man of our Table 2 addresses Purula women in general as apulla; only a restricted number of Purula women of his own generation, however, are actually eligible as wives for him, and these he calls anua; their fathers he calls irundera (instead of umba), their brothers umbirna (instead of apulla), their sons allira (instead of oknia). In fact, for a considerable number of relatives, both from the man's and the woman's point of view, there is a duplicate set of terms. The conditions under which these may be applied to a relative of the appropriate divisions are usually defined by the natives in terms of the locality whence he comes: he must belong to a distant locality. In default of special divisional names this is indeed the only way in which they can be adequately defined (cf. the similar practice in the Ungarinyin tribe). But in view of the fact that these duplicate terms are still used in the classificatory sense, we may suspect that the system which actually governs the marriage and other relationships in the Arunta tribe is one of sixteen divisions, derived by the halving of the eight named divisions of the tribe, and accompanied by a doubling of the number of descent lines. But, as in the Ungarinyin case, the system has not yet been worked out to its full conclusion in terms of relationships, though it may well be observable in practice. There are still three

37 For the opposite point of view see Radcliffe-Brown, *The Social Organisation of Australian Tribes; The Study of Kinship Systems.*

38 Spencer and Gillen, *The Arunta*, vol. 1, pp. 41-61, espc. p. 49.

divisions to which a man only applies a single relationship term, regardless of locality. Hence without further research in the field it would be hazardous to make a more specific guess at the possible structure of this system. The fact, however, that the Arunta do not contract marriages into generation $2\downarrow$, though the eight-subsection system erects no bar to them, may be taken as an indication that in line with the splitting up of the descent lines the reproduction period has been doubled.

CONCLUSIONS

It appears possible, on the basis of the material analyzed above, to put forward, at least tentatively, certain conclusions concerning the structure of classificatory kinship systems which have a bearing on the problem of classifying these systems. Above (p. 542) I posed the question whether it might not be possible to find for every Australian kinship system the divisional structure inherent in it, irrespective of the existence of named divisions. In the paper I have already referred to several times, Deacon in fact suggested such a possibility, when he expressed his belief that the stability and uniformity of certain types of marriage would be impossible without some system of marriage classes. Professor Radcliffe-Brown, on the other hand, has repeatedly expressed the opinion that the social divisions of Australian tribes are not primarily, or even not at all, concerned with regulating marriage. Deacon's suggestion was made in connection with the discussion of Melanesian systems; but, as Radcliffe-Brown has stated in the discussion of Deacon's paper, though they are divergent, there are such striking similarities in the development of the two systems that any discussion of the one which does not take account of the other must necessarily be incomplete.

It has struck me during my analysis of "aberrant" kinship systems of Australia that the divergence in their development is almost, perhaps quite as great, as that between the systems of Australia on the one hand and those of Melanesia on the other; while at the same time a certain regularity appears to be common, at any rate to those Australian systems which I have so far had the opportunity to study. These hidden regularities of kinship structure appear to me to be brought out in sharp relief by relating the kinship terms to a divisional structure, which is thus seen to be existent *de facto*, though not

de jure, and may in fact be quite different from that of the named divisions.

If this is general, or even widespread (as would seem to be the case), the *de facto* divisional structures open up the possibility of classifying systems on the basis of the elementary mathematics of combinations and permutations. It is, e. g., mathematically possible to determine the number of ways in which n divisions can be arranged in a two dimensional table subject to the general conditions to which all kinship systems must conform—in other words, the number of different kinship systems compatible with a given number of divisions; and it is equally feasible, though more laborious, to write all these possible kinship systems out *in extenso* and compare them with the existing ones. Even for a small number n, the number of possible kinship systems is likely to be considerable, and it will rise steeply, though perhaps not uniformly, with growing n. At first sight this seems a rather formidable task. However, though I am inclined to think that there will be no real short-cut to the satisfactory solution of the problem of classifying kinship systems obviating the completion of this mathematical framework, it is possible to group the systems provisionally according to certain familiar characteristics.

I. In the first place we can recognize two important groups of kinship systems, in one of which a brother and sister marry into the same division, while in the other they do not. The first is compatible with the custom of giving a sister in exchange for a wife: the Kariera, Arunta, Dieri (as well as the North Ambrym) systems belong to this group. I shall in the following denote this group by the letter *a*. This can only occur in systems with an even number of divisions in every generation, as otherwise the members of one division would be left without spouses in their own generation. All systems based on an odd n therefore belong of necessity to the other group, *b*. So do all the vertical systems of Table 16, as well as the Larakia, Karadjeri, and Ungarinyin systems.

II. The classification of kinship systems by a single index has for some time been felt to be unsatisfactory, and the number of descent lines has more and more been used as an additional characteristic to the number of divisions (named or unnamed). On the

basis of my analysis I have come to the conclusion that the reproduction periods represent another fundamental characteristic of the different systems. As we have seen, there are different reproduction periods for the male and female descent lines, the system as a whole, and the relationships between a male and a female descent line. The latter appears to me to merit particular attention. In general it may be said it affords a better measure of the degree of development of a particular system than, e. g., the number of divisions. Let us consider, e. g., the important marriage relation (though the analogous considerations apply to all other relationships that are possible within the system). In the dual system, as well as the Kariera system and that of the Nangiomeri of northeast Armhemland, the normal type of marriage is that with the cross-cousin; i. e., the reproduction period for this relationship is two generations, or in other words, the children of a given couple may not marry, but their grandchildren in the direct male and female lines may. Yet the number of divisions in these systems is two, four, and eight respectively. The increase in the number of divisions has no effect on the marriage law; it merely reflects an increasingly drastic restriction of marriage to one's own generation. In the triple system, the Larakia and the Kakadu system, where the number of divisions is respectively three, six, and twelve, the prohibition of marriage between the members of a given male and female descent line is pushed still another generation further down. The grandchildren of a particular couple in the direct line are now prevented from marrying, and only their greatgrandchildren in the direct line are eligible to each other as marriage partners; i. e., the reproduction period is here three generations. In the Arunta system this period reaches four, and in the Ungarinyin system (were it fully developed) even eight generations. It may well be that we are here led on to the track of the mystery of the progressive development of exogamy: from the original law of exogamy which prohibits marriage between brother and sister—i. e., the children of a given married couple—step by step to the prohibition of marriage between their direct descendants in the *n*th degree of the given male and female line.

We may thus distinguish certain main groups of systems characterized by a common reproduction period. Within these groups we may note a further development recorded in the increase of the

number of divisions. Where such an increase occurs without a simultaneous change in the reproduction period, we obviously have only a fraction of the divisions available for every generation, i. e., the feature which is so characteristic for the "normal" Australian systems. It is this which leads more and more to the restriction of marriage to one's own generation, at least formally. This fraction is determined by the relation of the reproduction period to the number of divisions, P/n (not, as one might have thought at first, the number of descent lines to n; the Kakadu instance shows this).

Even then there are still further distinctions between the various systems—of a secondary nature—though important for the analysis of a given system. They are expressed in the reproduction periods for the male and female descent lines, which are in general, though not invariably, different (e. g., "patrilineal couples" and "matrilineal cycles"; "vertical lines" in either sex, etc.). Where they are different, there is always a possible system which constitutes the reverse of the original, in the sense that the male and female reproduction periods are interchanged: the Arunta and Dieri systems are an example of this, and the dual organization with either male or female moieties. For completeness one should also add the reproduction period for the system as a whole, i. e., the number of generations after which both the relationships and the distribution of the divisions over the descent lines again returns to the original picture.

It will be useful to present the characteristic indices of all the systems which have been examined in this paper, even though some of them must be considered provisional. In Table 21 I have listed the type of the system (by the name of the tribe which most closely approximates that type, or is considered as typical, where possible); then the reproduction period of the relationships (P), the number of divisions (n), the fraction of n which appears in any one generation (P/n), the number of descent lines (D, total male plus female lines), the reproduction periods for the male and female descent lines and for the system as a whole (P_m, P_f, and P_s respectively) and lastly, whether the system belongs to group a or b as outlined in paragraph I of this section.

Table 21 is interesting because it illustrates what a large variety of kinship systems is possible. Of course it only contains a very small

TABLE 21

Indices of All Systems

Type	*P*	*n*	*P/n*	*D*	P_m	P_f	P_s	*I*
Dual (m)	2	2	1	4	1	2	2	a
Dual (f)	2	2	1	4	2	1	2	a
Kariera	2	4	1/2	4	2	2	2	a
Nangiomeri	2	8	1/4	4	4	4	4	a
Triple (m)	3	3	1	6	1	3	3	b
Larakia	3	6	1/2	6	2	6	6	b
Kakadu	3	12	1/3	8	3	3	3	a
Karadjeri	4	8	1/2	8	2	4	4	b
Arunta	4	8	1/2	8	2	4	4	a
Dieri	4	8	1/2	8	4	2	4	a
Ambrym	6	6	1	12	2	6	6	a
Ungarinyin	8	8	1	16	2	8	8	b

number of systems that have actually been found to exist in practice, and only a small fraction of those that can be demonstrated mathematically as being possible. Even so, we may already say that many of the systems which have usually been regarded as "aberrant," or as variants of the two "normal" types, had better be described as types of their own; and we may surmise that a much larger variety may still be found to be realized.

The table further shows, despite the limited number of cases so far analyzed, that there is more than one road of development; the more complicated systems may in fact be arrived at by a whole number of different paths. Which of these has actually been traversed by a given tribe it may not be possible to establish in every case. But, as we have seen above, it is not necessary to stipulate that all Australian tribes, or even all tribes in northwest Australia, have passed through a Kariera type stage, though in some cases, notably the Karadjeri, we have good grounds for thinking that it has. But if this is not general, if we may assume that individual Australian tribes have developed along other lines to their present social structure, a barrier is removed which has hitherto placed the Australian kinship systems in a special category of their own. This view is confirmed by

the fact that the Ambrym system finds a natural place in the list (Table 21).

Thus we may say that there is a large variety of possible kinship systems and much divergence in their development in Australia as well as in other parts of the world, and that all these varieties are capable of rational presentation with the help of elementary mathematics. This divergence is therefore not haphazard: there is a common trend in these various developments. Looking backward we find that they all ultimately stem from the simple dual organization, even those which in their present form are not compatible with an organization into moieties. In the dual organization only two degrees of relationship are recognized within each generation: "Brother" (or "Sister") and "Cross-cousin"; the latter is considered sufficiently distant to make its designees eligible as the normal spouse. But spouses may also be found in an adjoining generation. From this state of affairs there are two distinct steps towards a more complex organization: (a) the elimination of the latter possibility (Kariera system); (b) the interposition of a third degree of relationship between the "Brother" and the "Husband" (respectively "Sister" and "Wife") (three-divisional system). Either step may have been taken before the other, and thus a course of development set, in any given tribe. By the successive application of steps of either type in different combinations we may reach any of the types listed in Table 21. The common urge seems to be to make the relationship to the potential spouse progressively more and more distant; in all these systems the normal spouse in one's own generation is always taken from the division which is most distantly related to one's own. What this concept of distance in relationship means becomes clearer when we look downwards in the table of kinship terms (cf. p. 571). First "Brother" and "Sister" are considered to be too closely related for marriage; then the children of these; then their grandchildren in the direct line, etc., etc. The natives themselves lay great stress on this concept of distance, as all observers tell us; it is often fused with geographical distance, and that is quite understandable, since the consistent habit of residing with either parent (in Australia patrilocal residence) must tend to bring about the fusion of the two concepts. (It is perhaps the strength of the

local organization which has enabled so many tribes to dispense with divisional names.)

The fact that this common trend may be discerned in the development of a large and strictly definable variety of kinship systems; that the Ambrym system, which according to Deacon may be closely linked with the chain of development of the Melanesian systems, is one of these well defined varieties; that the kinship systems of the American Indians appear to show many affinities with the Australian systems—all these considerations lead me to think that possibly all classificatory systems of relationships are subject to the same regularities and may be analyzed by the same method. It may be objected that the material I have so far had an opportunity to analyze is too slender to warrant such a conclusion. If, at this stage, I am putting this forward as a hypothesis, I am doing so in the somewhat selfish hope that I may find helpers in its verification from among those more fortunately placed, who have at present the opportunities of studying kinship systems in the field. In attempting a new approach to an old problem one is apt to come up against serious gaps in the records even of the most conscientious observers; many of these gaps it will now be impossible to fill, either because the tribes in question have become practically extinct, or because their social system has in the meantime changed. It is in the reality of tribal life, that still pulses in many parts of the world even under adverse conditions, that the full answer to this question may still be found.

In conclusion, I would like to emphasize that the analysis here presented has been confined to the formal aspects of kinship structure—aspects which I have come to consider as an essential preliminary, but only a preliminary, to the study of tribal society. In itself it does not give an answer to such important questions as the predominance of matrilineal over patrilineal descent and organization or vice-versa; the role of the divisions as living units of social structure or the extent to which they may already have been outlived in any concrete instance; or, most fascinating of all, the interplay of the various forms of kinship organizations on the one hand with the equally varied forms of totemic groupings on the other. But I do believe that the method I developed for the simple purpose of getting to grips with the complexities of kinship structure can prove

an aid to the further research into the many problems which still await solution. It has, I think, the following advantages:

(1) It is independent of any special principles, which might at best be controversial, and proceeds simply from a systematic arrangement of the recorded facts;

(2) It enables the dominating features of even a very complex system of kinship terms to be brought into full view in a single picture;

(3) It makes possible the comparison and classification of widely divergent kinship systems, and provides a useful check on the completeness of our information.[39]

LONDON, ENGLAND

39 War time conditions, especially the lack of educational facilities in anthropological science in London, have made this first effort none too easy. I have all the greater pleasure in acknowledging my indebtedness to the Royal Anthropological Institute, which has kept its hospitable doors open through the most trying times, whose excellent library provided the newcomer with an invaluable hunting ground for facts, and whose lectures have been a constant guide to me. I wish to express my gratitude also to Dr Braunholtz, who introduced me to the Institute; to Prof Hutton, who directed my first steps to the sources of information, and to Dr Margaret Read, whose lectures at the Colonial Department of the University of London Institute of Education I was privileged to attend.

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